REPORT RESUMES

ED 019 457 VT 002 572

PROFILES OF TRADE AND TECHNICAL TEACHERS--COMPREHENSIVE REPORT.

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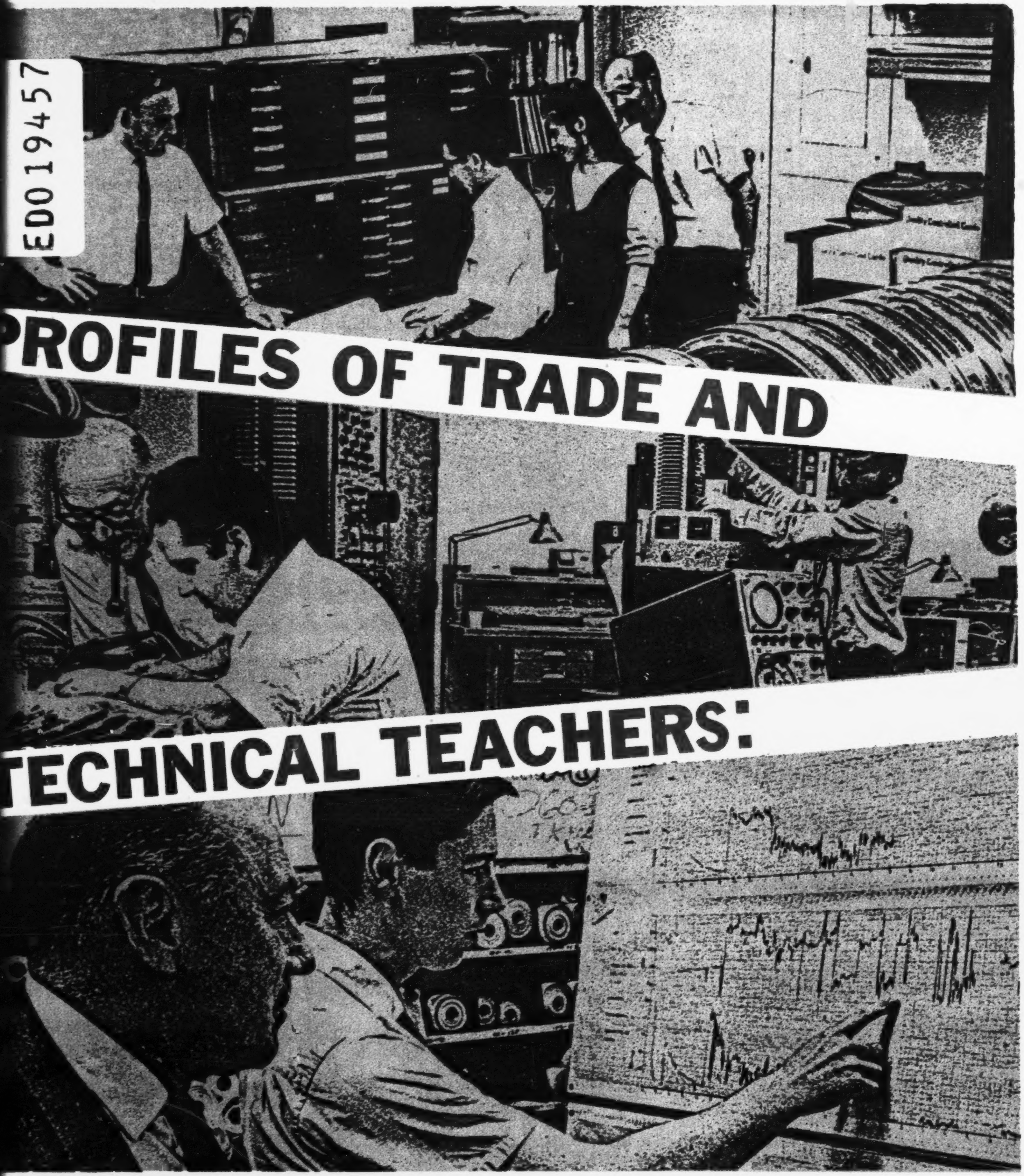
PUB DATE 68
EDRS PRICE MF-$1.25 HC-$11.84 294P.

DESCRIPTORS- *TRADE AND INDUSTRIAL TEACHERS, *TEACHER CHARACTERISTICS, TEACHER EXPERIENCE, TEACHER QUALIFICATIONS, TEACHER EMPLOYMENT, TEACHING CONDITIONS, TEACHER SALARIES, PROFESSIONAL ASSOCIATIONS, STATE SURVEYS, QUESTIONNAIRES, INTERVIEWS, TEACHER EDUCATION, JUNIOR COLLEGES, EDUCATIONAL EXPERIENCE, HIGH SCHOOLS, CORRECTIVE INSTITUTIONS, TEACHER CERTIFICATION, CALIFORNIA,

THE CHARACTERISTICS AND PERCEPTIONS OF TRADE AND TECHNICAL TEACHERS IN CALIFORNIA ARE REPORTED AND ANALYZED. THE DESCRIPTION OF CHARACTERISTICS IS BASED ON 1,587 RESPONSES DRAWN FROM THE TOTAL POPULATION OF TRADE AND TECHNICAL TEACHERS CREDENTIALED TO TEACH FULL TIME IN CALIFORNIA IN SEPTEMBER 1966. THE PERCEPTIONS ARE BASED ON THE RESPONSES OF 185 TEACHERS IN 14 GROUP INTERVIEWS, THE RESPONSES OF THESE SAME TEACHERS ON A SELF-PERCEPTION QUESTIONNAIRE, AND THE RESPONSES OF ANOTHER SAMPLE OF 408 TEACHERS ON TWO FORMS OF A PRESCRIPTION-DESCRIPTION QUESTIONNAIRE. DATA ARE PRESENTED FOR TEACHERS IN JUNIOR COLLEGES, HIGH SCHOOLS, CORRECTIONAL INSTITUTIONS, AND OTHER INSTITUTIONS. BOTH JUNIOR COLLEGE TEACHERS WHO COMPRISE 65.7 PERCENT OF THE POPULATION AND HIGH SCHOOL TEACHERS WHO COMPRISE 14.2 PERCENT TEACH PREDOMINATELY IN METROPOLITAN AREAS. THE JUNIOR COLLEGE TEACHERS COMPARED WITH OTHER GROUPS HAVE MORE FORMAL EDUCATION, HAVE LESS WORK EXPERIENCE, AND EARN THE HIGHEST SALARIES. THE CORRECTIONAL TEACHERS COMPRISE 10.5 PERCENT OF THE POPULATION, HAVE MUCH MORE WORK EXPERIENCE, START TEACHING WITH THE LEAST EDUCATION, AND EARN THE SMALLEST SALARIES ON A 9-MONTH BASIS. MOST OF THE TRADE AND TECHNICAL TEACHERS ARE IN THEIR SECOND CAREERS HAVING DEVELOPED A TRADE OR TECHNICAL COMPETENCY AT THE JOURNEYMAN LEVEL BEFORE BEING CREDENTIALED TO TEACH. THIS TRANSITION PRESENTS PECULIAR PROBLEMS IN THAT THE EDUCATIONAL SYSTEM HAS NOT ADAPTED COMPLETELY TO NEW VOCATIONAL GOALS AND THE ASSIMILATION OF A DIFFERENT STAFF. THE APPENDIXES PRESENT ADDITIONAL DESCRIPTIONS AND STATISTICAL INFORMATION. A SUMMARY REPORT IS AVAILABLE AS VT 004 274. (HC)

ED019457



PROFILES OF TRADE AND TECHNICAL TEACHERS:

OMPREHENSIVE REPORT
968

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VT002572

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California State Department of Education

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PROFILES OF TRADE AND TECHNICAL TEACHERS: COMPREHENSIVE REPORT

1968

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FOREWARD

The information assembled in this report provides a descriptive profile of the trade and technical teacher in California. It also explores many facets of his teaching and training. The perceptions and attitudes of teachers presented here are of particular value.

This research has been needed for a long time by the Bureau of Industrial Education, teacher training institutions, county boards of education and local school districts. It is needed for policy development and decision-making. It helps us know how teachers think and feel about key issues and how we can work to enhance the status of trade and technical teachers. It provides the facts which document the advances we have made in our profession.

These data will be used wherever appropriate in California and throughout the nation to further the cause of trade and technical education. They help answer many questions which are being raised today and provide direction for meeting the needs of tomorrow.

I am grateful to all of the teachers and administrators who have given their assistance to this research project.

Richard S Nelson

Richard S. Nelson, Chief
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INTRODUCTION

INTRODUCTION

The past few decades have seen major scientific and technological revolutions. The need for skilled technicians and craftsmen has exerted pressure upon our educational institutions to meet the demand for a trained labor force. Grant Venn states the situation in these terms:

> Technological change has, rather suddenly, thrown up a dramatic challenge to this nation's political, economic, social, and educational institutions. Though the full scope of this challenge may not be comprehended for years to come, its dimensions are now clear enough to call for a massive response on the part of American Education. All levels of education, and particularly post-secondary education, must quickly move to assume greater responsibilities for preparing men and women for entry into the changed and changing world of technological work. Unless far more and far better education on the semiprofessional, technical, and skilled levels is soon made available to greater numbers of citizens, the national economy and social structure will suffer irreparable damage.[1]

Vocational teachers are the major factor in the acquisition of "far more and far better education on the semiprofessional, technical, and skilled levels." They are the key to any adequate program for the future. But even though we have amassed enough sophisticated knowledge to carry us through space and conquor the heavens we still do not have the elementary information about the trade and technical teachers who play a vital role in the development of trained manpower.

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[1] Grant Venn, Man, Education and Work (Washington, D.C.: American Council on Education, 1964), p. 1.

The basic descriptive information about trade and technical teachers reported here is a small but vital contribution to filling the void of information about these important teachers. We are hopeful that it will inspire others to go beyond the limitations of this research and focus on the numerous remaining needs and problems of this unique group of teachers.

Previous Studies

During the past two decades three studies have made spot inventories of the status of trade and technical teachers and one dissertation has studied the career patterns of trade and technical teachers in California. Two of the status studies, jointly conducted by Melvin L. Barlow and Gail E. Moore, covered the period 1945-1950.[2] A third study, by David Allen, covered the period 1955-1962.[3] In 1961 William J. Schill completed a doctoral dissertation[4] which surveyed the career patterns of 1,154 craftsmen who became trade and technical teachers in California.

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[2] Melvin L. Barlow and Gail E. Moore, A Study of Teachers Entering Trade and Industrial Education (Los Angeles: Division of Vocational Education, University of California, 1953).

Melvin L. Barlow and Gail E. Moore, A Survey of Trade and Industrial Teachers (Los Angeles: Division of Vocational Education, University of California, 1955).

[3] David Allen, A Study of Trade and Technical Teachers Who Received First Credentials July 1955 - June 1962 (Los Angeles: Division of Vocational Education, University of California, 1963).

[4] William John Schill, "Career Patterns of Trade and Technical Educators" (Unpublished Ed.D. dissertation, Department of Education, University of California at Los Angeles, 1961).

Research Methods

The Profile Study is more comprehensive than any other study of the subject known to the authors. The following is a description of the study.

Identification of the population. Approximately 3,000 names were considered for inclusion in the study population, but many did not meet the criteria for inclusion in the study. A search for trade and technical teachers took the researchers to the files of the teacher training offices of the University of California, to the regional offices of the State Department of Education, to selected county offices and to approximately fifty schools and school districts. Junior college catalogues and the California School Directory were also searched for the names of trade and technical teachers.

The population of the study was limited to trade and technical teachers with full-time credentials who were not engaged primarily in supervision or administration. The full-time credentials which met the criteria of the study were (1) the Standard Designated Subjects, Full-time, (2) the Special Secondary Vocational - Class A and (3) the Special Secondary Vocational - Class B. Full-time teachers with additional responsibilities in supervision, administration or other school employment were considered within the parameters of the population. Teachers who held a full-time credential but worked only part-time also were included in the population.

Basic Description Questionnaire.[5] The Basic Description

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[5] Questionnaires utilized in the Profile Study are found in Appendix III.

Questionnaire (BDQ) was sent to approximately 2,500 teachers. When the processing of the questionnaires began, 1,893 returns had been received. Three hundred and six of these returns were excluded from the survey population, and failed to meet the parameters of the study. The data reported from the BDQ are based on 1,587 returns. We estimate that these data represent at least 75 percent of the teachers known to be within the population when the questionnaire was administered.

The purpose of the BDQ was to collect descriptive information about the characteristics of trade and technical teachers. These data were utilized to describe the teacher population, to make comparisons with previous studies and to explore the relationships of numerous variables.

Group interviews. Fourteen group interviews were conducted in eleven counties geographically distributed throughout the state. Three hundred and ten teachers from these counties were selected randomly to attend the interviews. One hundred and eighty-five teachers attended these sessions. The interviews attempted to identify teacher perceptions and suggestions related to the following four areas:

1. The changing environment of trade and technical education
2. The relationships of trade and technical teachers with their colleagues (academic and vocational)
3. The pre-service training of teachers
4. The in-service training of teachers

Data from the group interviews became the basis of the Prescription-Description Questionnaire described below.

Self-Perception Questionnaire. The Self-Perception Questionnaire (SPQ) was administered to the "captive" participants in the group interviews described above. The purpose of the SPQ was to obtain responses from teachers on a comprehensive range of teaching activities. The instrument was administered at the close of each group interview. Only one person interviewed failed to complete the questionnaire.

Prescription-Description Questionnaire. The Prescription-Description Questionnaire (PDQ) was designed to follow up the series of group interviews by mail. The items incorporated in this questionnaire were selected from typescripts and other notes made from the interviews.

Two forms (Form A and Form B) of the PDQ were utilized so that prescriptive and descriptive data could be collected from the first two sections of the instrument. The prescriptive Form A asked how frequently the suggested items should be practiced. The descriptive Form B asked how frequently the suggested items are practiced. In the third and fourth sections, the prescriptive directions were used on both forms.

A random sample of 510 teachers was drawn from the 1,587 respondents to the BDQ. The sample also was representative of the types of institutions (high school, junior college and correctional). Half of the teachers (255) received Form A and half received Form B.

The data reported below are based on an 80 percent return (408 responses). The samples were kept representative by type of institution (junior college, high school and correctional institution).

Research Schedule

The original proposal provided for individual interviews following the group interviews, but this plan was abandoned and a questionnaire was substituted for the individual interview. The size of the total study population originally was estimated at about 1,000 teachers. Because the population proved to be considerably larger, the required clerical work and data processing time were grossly underestimated. The original schedule was adjusted for this reason. The revised schedule follows:

July 1 -- September 30, 1966

1. Prepare list of trade and technical teachers.
2. Prepare Basic Description Questionnaire.
3. Schedule group interviews and select participants.
4. Prepare Self-Perception Questionnaire.

October 1, 1966 -- January 30, 1967

1. Conduct group interviews.
2. Administer Self-Perception Questionnaire.
3. Process data from Basic Description Questionnaire and Self-Perception Questionnaire.
4. Develop Prescription-Description Questionnaire and conduct random sampling.

February 1 -- April 15, 1967

1. Continue data analysis of all three questionnaires.
2. Present available data to Advisory Committee.

April 16 -- June 30, 1967

1. Complete data analysis.
2. Develop descriptions and interpretations.
3. Prepare report for publication.

The contents of the Profiles Study are reported in seven chapters. Three major types of institutional employment are reported in Chapter I and related to many other factors. The type of institutional employment is one of the most discriminating factors in the study. Chapter II describes the characteristics of the trade and technical teachers' careers in education and the perceptions of the teachers about them. It also includes data on teachers prior to teaching. Chapter III provides an educational profile of the current population of teachers, compares the educational factor with other factors and reports a striking rise in the educational level. Analysis of memberships reported reveals that trade and technical teachers have a median of 5.6 organizational affiliations per teacher. Chapter IV describes the patterns of affiliation and the factors associated with membership. The relationship of the teachers to their several environments is described in Chapter V. Teacher perceptions about what is most helpful in both pre-service and in-service training are reported in Chapter VI. A major finding of the study has been the respondents' desire for in-service training. A summary of the study, in Chapter VII, with interpretations and an appraisal of future developments, concludes the report.

The reader should be cautious in making comparisons between institutions or groups of teachers from the data in this report. No universal model or standard for all vocational institutions is available for application to the data reported here. No ideal teacher has been identified for every vocational program or institution. Furthermore, the perceptions of teachers do not necessarily reflect reality. They merely mirror reality by the parameters of trade and technical teacher observations.

This research is indebted to its advisory committee. The interpretation, evaluation and use of the information gathered in the course of the research have been enhanced by their guidance and cooperation. The following persons served on this committee:

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CHAPTER I

INSTITUTIONAL EMPLOYMENT OF TRADE AND TECHNICAL TEACHERS

CHAPTER I

INSTITUTIONAL EMPLOYMENT OF TRADE AND TECHNICAL TEACHERS

Three principal types of institutions employ most of the trade and technical teachers in California -- junior colleges, high schools and correctional institutions. Other types of institutions, such as the junior high schools, skills centers, hospitals and private schools, account for the remaining 7.2 percent in this survey. Table 1-1 reveals that the largest group of trade and technical teachers is found in the junior college.

Age

One of the distinctive differences between the groups of teachers at these types of institutions is age. The median age of teachers in correctional institutions varies most from the overall median age of 45.9 years. Their median age when they began teaching also varies most from the overall beginning median age of 36.8 years. As indicated in Table 1-2, correctional teachers begin teaching at a median age 4.4 years older than the median for the overall study population. Their present median, however, is only 1.4 years older. The teachers in high schools are younger than the overall study population. Their median age as beginning teachers is 1.1 years younger than the median beginning age of the general study population. Currently, they are three years younger. Based on this, we would infer that high school and correctional teachers remain in these institutions for shorter periods of time than do the trade and technical teachers in junior colleges. This hypothesis, however, has not been fully analyzed. Junior college teachers, who influence the median scores by their large representation in the overall population (65.7 percent), have

TABLE 1-1

DISTRIBUTION OF TEACHERS BY TYPE OF INSTITUTION

Type of Institution	Number	Percentage
Junior college	1,042	65.7
High school	226	14.2
Correctional	167	10.5
Other (Junior high, skill centers, private schools, etc.) . .	115	7.2
No answer	37	2.4
Totals	1,587	100.0

TABLE 1-2

MEDIAN AGES OF TEACHERS BY TYPE OF INSTITUTION

Institution	Age at Start of Teaching*	Current Age**
High school	35.7	42.7
Junior college . . .	36.2	45.8
Correctional	41.2	47.3
Other	37.0	46.3

* The overall median is 36.8 years.
** The overall median is 45.9 years.

median scores very close to the overall population.

Two factors were examined for their influence upon the starting age of the teachers -- work experience and formal education. The data suggest that correctional teachers have an older median age at the start of teaching because they spend more years obtaining work experience. Table 1-3 indicates that correctional teachers begin teaching with a median work experience differential of 4.6 years when compared with the overall population. High school teachers, who begin teaching at an earlier age, have a slightly lower median score for work experience. Junior college teachers have a median work experience score very close to the overall median.

TABLE 1-3

MEDIAN NUMBER OF YEARS OF FULL-TIME WORK EXPERIENCE PRIOR TO TEACHING BY TYPE OF INSTITUTION*

Type of Institution	Median
High school	13.7
Junior college	13.8
Correctional	18.5
Other	16.2

* The overall median is 13.9 years.

There appears to be no correlation between formal education prior to teaching and starting age. For example, Table 1-4 indicates that junior colleges and high schools have a larger percentage of

TABLE 1-4

LEVELS OF FORMAL EDUCATION OF TEACHERS PRIOR TO TEACHING BY TYPE OF INSTITUTION

Educational Level	High School		Junior College		Correctional	
	Number	Percent	Number	Percent	Number	Percent
High school diploma . . .	48	21.2	191	18.3	72	43.1
Junior college courses .	31	13.7	147	14.1	50	30.0
Junior college degree . .	26	11.5	78	7.5	10	6.0
Registered nurse	1	.4	57	5.5	3	1.8
College or university courses (non-extension)	36	15.9	171	16.4	21	12.6
Bachelor degree	75	33.2	313	30.0	7	4.2
Master degree	9	4.0	69	6.6	3	1.8
Doctor degree	..	..	11	1.1	..	..
No answer	..	..	5	.5	1	.6
Totals	226	99.9	1,042	100.0	167	100.1

teachers with higher degrees and yet their teachers have a median starting age just below the overall median. Teachers in correctional institutions have far less higher education, even though they begin teaching much later than other groups.

Evidently the time spent in acquiring formal education does not appreciably affect the median age at which trade and technical teachers begin teaching. What does appear to be directly related is work experience. We assume that the formal education acquired by trade and technical teachers prior to teaching is obtained concurrently with work experience.

Upgrading Education

Tables 1-4 and 1-5 indicate that there is considerable upgrading of formal education after the teachers begin to teach. Junior colleges continue to have higher percentages of teachers with higher degrees. High school teachers also continue to make marked changes in their levels of formal education. However, teachers in correctional institutions make very modest shifts upward in the amount of formal education they acquire after beginning to teach.

When responses were solicited concerning current enrollment and plans for more education (Table 1-6), high school teachers reported the highest percentages of enrollment and plans to enroll. Although a relatively large percentage of correctional teachers anticipate enrollment (45.5 percent), very few (4.8 percent) report current enrollment. A lower percentage of junior college teachers plan to enroll and are

TABLE 1-5

CURRENT LEVELS OF FORMAL EDUCATION OF TEACHERS BY TYPE OF INSTITUTION

Educational Level	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
High school diploma	10	4.4	41	3.9	19	11.4
Junior college courses	23	10.1	125	12.0	52	31.1
Junior college degree	15	6.6	52	5.0	13	7.8
Registered nurse	1	.4	31	3.0	..	..
College or university courses (non-extension)	65	28.8	245	23.5	62	37.1
Bachelor degree	83	36.7	329	31.6	11	6.6
Master degree	24	10.6	187	17.9	6	3.6
Doctor degree	..	..	13	1.2	..	..
No answer	5	2.2	19	1.8	4	2.4
Totals	226	99.8	1,042	99.9	167	100.0

TABLE 1-6

ANTICIPATED AND CURRENT ENROLLMENT IN DEGREE PROGRAMS BY TYPE OF INSTITUTION

Enrollment in Degree Programs	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
Anticipated Enrollment . .	147	65.0	562	53.9	76	45.5
Current Enrollment	40	17.7	138	13.2	8	4.8

currently enrolled in degree programs, yet they comprise the largest group by actual count. One hundred and thirty-eight junior college teachers are actually enrolled for additional course work in degree programs.

Income

A number of factors must be kept in mind to build a composite picture of the salary differences among the three major types of institutions reported in the data. One of the problems involves comparing only those teachers who are teaching full-time. For this reason, only the data for the 1,420 teachers working full-time are reported. A second problem exists in equating the salaries of correctional teachers, who report a salary for twelve months, with the salaries of public school teachers, who report a salary for nine months. This problem was partially met by reporting an adjusted nine-month salary. This discrepancy must also be kept in mind when interpreting income from other sources in the supplementary tables.

Table 1-7 reveals that the junior college teachers have significantly higher salaries when compared to the other groups on a nine-month basis. Over half (59.2 percent) of the junior college teachers are earning at least $10,000 for the nine-month period, as compared with one-third (33.3 percent) of the high school teachers and none of the correctional teachers. However, three-quarters (74.9 percent) of the correctional teachers are making more than $10,000 on a twelve-month basis.

TABLE 1-7

TEACHING SALARIES OF FULL-TIME TEACHERS BY INSTITUTION

Salary	High School		Junior College		Correctional*		Correctional**	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Below 5,000 .	..	..	1	.1	..	..	..	..
5,000 - 5,999 .	3	1.4	1	.1	1	.6	..	..
6,000 - 6,999 .	18	8.2	10	1.1	19	11.9	..	..
7,000 - 7,999 .	39	17.8	58	6.3	34	21.4	1	.6
8,000 - 8,999 .	40	18.3	116	12.5	100	62.9	9	5.7
9,000 - 9,999 .	43	19.6	187	20.2	4	2.6	29	18.2
10,000 - 10,999 .	37	16.9	201	21.7	..	..	22	13.9
11,000 - 11,999 .	28	12.8	194	20.9	..	..	93	58.5
12,000 - 12,999 .	8	3.6	111	12.0	..	..	4	2.5
13,000 - 13,999 .	..	..	37	4.0	..	..	..	..
14,000 - 14,999 .	..	..	5	.5	..	..	..	..
15,000 or more . .	..	..	1	.1	..	..	..	..
No answer	3	1.4	5	.5	1	.6	1	.6
Totals . . .	219	100.0	927	100.0	159	100.0	159	100.0

* Salaries of correctional institution teachers were calculated to be commensurate with a nine month year for purposes of comparison with the high school and junior college teachers.

** These are the statistics for correctional teachers for a full year.

Table 1-8 reveals that over half (51.4 percent) of the junior college teachers also are receiving additional income from teaching, and they tend to make more money at it. A substantial number of high school teachers (45.8 percent) also take advantage of opportunities to do extra teaching, but few (10.7 percent) of the correctional teachers report additional income from this source.

High school teachers lead all others in the percentage of teachers (60.7 percent) who have other non-teaching income, as indicated by Table 1-9. Over half of the junior college teachers (51.7 percent) also have income from sources other than teaching. Approximately two out of five (39.8 percent) of the correctional teachers report additional income from non-teaching sources.

Because of the differences in teaching contracts, comparative data on salary are difficult to obtain. On the basis of a nine-month work schedule, it is clear that junior college teachers have the highest wages, high school teachers follow and correctional teachers fall well below. We suspect that the same trend would characterize these three groups if full-time and additional income from teaching could be combined for public school teachers to compare with the twelve-month salaries of correctional teachers. However, the data are not combinable as obtained in this study. It can be discerned that large numbers of high school and junior college teachers do augment their incomes with extra income both from teaching and from other sources. Correctional teachers fall well behind their public school counterparts in securing extra income.

TABLE 1-8

ADDITIONAL TEACHING INCOME OF FULL-TIME TEACHERS

Salary	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
None	108	49.3	417	45.0	139	87.4
Below 1,000 . .	49	22.4	184	19.8	13	8.2
1,000 - 1,999 . .	38	17.4	200	21.6	2	1.3
2,000 - 2,999 . .	9	4.1	68	7.3	1	.6
3,000 - 3,999 . .	3	1.4	14	1.5	..	..
4,000 - 4,999 . .	..	..	4	.4	..	..
5,000 or more . .	1	.5	7	.8	1	.6
No answer . . .	11	5.0	33	3.6	3	1.9
Totals . .	219	100.1	927	100.0	159	100.0

TABLE 1-9

ADDITIONAL INCOME OF FULL-TIME TEACHERS FROM NON-EDUCATIONAL SOURCES

Salary	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
None	77	35.2	413	44.6	90	56.6
Below 1,000	63	28.8	187	20.2	30	18.9
1,000 - 1,999	26	11.9	106	11.4	11	6.9
2,000 - 2,999	15	6.8	66	7.1	9	5.7
3,000 - 3,999	11	5.0	37	4.0	2	1.3
4,000 - 4,999	5	2.3	18	1.9	2	1.3
5,000 or more	13	5.9	66	7.1	9	5.7
No answer	9	4.1	34	3.7	6	3.8
Totals	219	100.0	927	100.0	159	100.2

Community Setting

Teachers from different types of institutions also report different types of community settings for their employment. (See Table 1-10.) As described in Appendix I, correctional teachers are employed in a distinctive type of small community, while junior college and high school teachers are primarily situated in metropolitan areas.

Sex

The distribution of women trade and technical teachers by institutional type, reported in Table 1-11, reveals that very few women are teaching in vocational programs in the high schools and correctional institutions. Junior colleges are providing most of these teaching opportunities for women.

TABLE 1-11

DISTRIBUTION OF TEACHERS BY SEX AND TYPE OF INSTITUTION

Type of Institution	Male		Female	
	Number	Percentage of Institutional Group	Number	Percentage of Institutional Group
High school . . .	209	92.5	17	7.5
Junior college . .	695	66.7	347	33.3
Correctional . .	159	95.2	8	4.8

TABLE 1-10

DISTRIBUTION OF TEACHERS BY TYPE OF COMMUNITY AND TYPE OF INSTITUTION

Type of Community	Type of Institution					
	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
Small independent towns . .	70	30.9	197	18.9	116	69.5
Suburb (part of metropolis) .	50	22.1	128	12.3	18	10.8
Large towns and cities. . .	101	44.7	675	64.8	7	4.2
No answer	5	2.2	42	4.0	26	15.6
Totals . . .	226	99.9	1,042	100.0	167	100.1

Organizational Membership

Although a more complete analysis of the organizational affiliations of trade and technical teachers is presented elsewhere in this report, a brief overview of affiliational patterns related to the type of institution is reported here. The institutional differences in the organizational affiliations of teachers vary as indicated in Tables 1-12 through 1-17. In general, the public school teachers tend to give much greater support to national and state organizations and less support to local organizations. Correctional teachers tend to affiliate more with local organizations and less with national and state organizations.

Not only are there institutional differences in the patterns of organizational affiliation but there are also differences in the percentages of membership. The tables indicate that correctional teachers have the smallest percentage of membership and junior college teachers the highest percentage. However, high school teachers follow close to the junior college teachers, and surpass them in the percentage of membership in state organizations.

Among national organizations, high school teachers give about equal support to the National Education Association and the American Vocational Association. The American Industrial Arts Association falls well behind these two leaders. The junior college teachers place the NEA clearly in first place, followed by the AVA. The AIAA receives less support from the junior college teacher. Correctional teachers, who are generally low in their support of these national organizations, give

TABLE 1-12

MEMBERSHIP OF TEACHERS IN NATIONAL EDUCATIONAL ORGANIZATIONS BY TYPE OF INSTITUTION

Organization	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
Adult Education Association of USA	9	4.0	6	.6	1	.6
American Industrial Arts Association	34	15.0	59	5.7	8	4.8
American Vocational Association	53	23.5	238	22.8	27	16.2
National Education Association	54	23.9	263	25.2	7	4.2

TABLE 1-13

NUMBER OF MEMBERSHIPS PER TEACHER IN NATIONAL EDUCATIONAL ORGANIZATIONS BY TYPE OF INSTITUTION

Number of Organizations	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
0	111	49.1	508	48.8	116	69.5
1	75	33.2	366	35.1	35	21.0
2	24	10.6	119	11.4	15	9.0
3	8	3.5	36	3.5	1	.6
4	5	2.2	11	1.1	..	..
5	1	.4	2	.2	..	..
6	1	.4	..	..	..	..
7	1	.4	..	..	..	..
Totals . . .	226	99.8	1,042	100.1	167	100.1

TABLE 1-14

MEMBERSHIP OF TEACHERS IN STATE EDUCATIONAL ORGANIZATIONS BY TYPE OF INSTITUTION

Organization	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
California Council for Adult Education	10	4.4	11	1.1	..	..
California Industrial Education Association . .	126	55.8	397	38.1	55	32.9
California Junior College Faculty Association . . .	3	1.3	434	41.7	..	..
California Teachers Association	136	60.1	555	53.3	26	15.6
California Vocational Association	19	8.4	144	13.8	18	10.8

TABLE 1-15

NUMBER OF MEMBERSHIPS PER TEACHER IN STATE EDUCATIONAL ORGANIZATIONS BY TYPE OF INSTITUTION

Number of Organizations	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
0	26	11.5	155	14.9	46	27.5
1	113	50.0	357	34.3	83	49.7
2	61	27.0	314	30.1	33	19.8
3	21	9.3	169	16.2	5	3.0
4	4	1.8	37	3.6	..	..
5	..	..	8	.8	..	..
6	1	.4	1	.1	..	..
7	..	..	1	.1	..	..
Totals . .	226	100.0	1,042	100.1	167	100.0

TABLE 1-16

MEMBERSHIP OF TEACHERS IN LOCAL ORGANIZATIONS BY TYPE OF INSTITUTION

Type of Organization	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
Professional educational .	162	71.7	733	70.3	44	26.3
Labor	43	19.0	131	12.6	39	23.4
Trade or professional . .	42	18.6	518	49.7	39	23.4
Fraternities or sororities.	40	17.7	219	21.0	8	4.8
Civic and political . .	24	10.6	157	15.1	22	13.2
Educational and cultural .	107	47.3	302	29.0	46	27.5
Military and veteran . .	34	15.0	112	10.7	30	18.0
Recreational	53	23.5	241	23.1	40	24.0
Religious	51	22.6	302	29.0	45	26.9
Service	43	19.0	196	18.8	67	40.1
Youth and children's sponsors	45	19.9	184	17.7	36	21.5

TABLE 1-17

NUMBER OF LOCAL ORGANIZATIONS PER TEACHER BY TYPE OF INSTITUTION

Number of Organizations	High School*		Junior College*		Correctional*	
	Number	Percentage	Number	Percentage	Number	Percentage
0	11	4.9	47	4.5	16	9.6
1	35	15.5	121	11.6	32	19.2
2	48	21.2	229	22.0	33	19.7
3	46	20.4	182	17.5	31	18.6
4	32	14.2	157	15.1	26	15.6
5	22	9.7	121	11.6	13	7.7
6	15	6.6	67	6.3	3	1.8
7	5	2.2	44	4.2	2	1.2
8	5	2.2	30	2.9	4	2.4
9	3	1.4	20	1.9	1	.6
10	1	.4	12	1.2	..	..
11	2	.9	6	.6	2	1.2
12	..	..	4	.4	4	2.4
13	..	..	..	..	..	..
14	1	.4	..	..	..	..
15	..	..	1	.1	..	..
16	..	..	1	.1	..	..
Totals	226	100.0	1,042	100.0	167	100.0

* The median number of local organizations per teacher is:

High School	3.4
Junior College . .	3.7
Correctional . . .	3.1

their primary allegiance to the AVA, with much less support for the AIAA and the NEA.

Among state organizations, the high school teachers support the California Teachers Association first and the California Industrial Education Association second, with very low percentages of membership in other state organizations. The CTA also dominates the organizational interests of junior college teachers, but the California Junior College Faculty Association and the CIEA also receive substantial support. Although the California Vocational Association also receives most of its support from junior college teachers, it falls significantly behind the leaders. Correctional teachers give the CIEA their major support, but the CTA and the CVA are also represented.

The overall pattern of membership at the local level indicates greatest support for local professional educational groups (e.g., faculty associations and shop teachers' organizations and least support for civic and political groups. However, membership patterns vary widely with respect to types of organizations. For example, junior college teachers tend to give more support to trade and professional organizations than do high school teachers. High school teachers tend to join more educational and cultural organizations than do junior college teachers. (Perhaps this is accounted for by the role of the NCPT, which falls in this category and receives greater support in the high school.) Correctional teachers have a higher percentage of representation in service groups and labor organizations.

It should be apparent that trade and technical teachers do give support to many different national, state and local organizations, both related and unrelated to their teaching profession. They obviously support specific kinds of organizations and also have distinctive patterns of organizational affiliation related to their type of institutional employment. We suspect that the needs, problems and pressures with which the trade and technical teacher lives provide many of the explanations for their associational characteristics.

Summary

In summary, high school teachers, who comprise 14.2 percent of the total study population, tend to be younger than either junior college or correctional teachers, and to start teaching at an earlier age. They begin with considerably more formal education than correctional teachers but less than junior college teachers and increase their formal education considerably while teaching. On a nine-month basis, they earn less than junior college teachers but more than correctional teachers. Approximately half of them, however, earn extra money from teaching and more than half earn extra money from other sources. Most high school teachers work in metropolitan areas but their schools are more evenly distributed between small town, suburb and city than the schools of either junior college or correctional teachers. A lower percentage of women work in high schools than in junior colleges. High school teachers support national, state and local associations with a more even spread than either of the other groups. In national organizations, they give major support to the NEA and the AVA; in state organizations, the CTA and the CIEA; and in local organizations they support professional educational associations and other educational and cultural groups.

The junior college employs 65.7 percent of the trade and technical teachers. The ages of these teachers range close to the overall medians of 36.8 years when they began teaching and 45.9 years currently. Women teachers find many more opportunities to teach trade and technical subjects in the junior college than elsewhere. The work experience of junior college teachers tends to be markedly below that of the correctional teachers but slightly higher than that of the high school teachers. Junior college teachers have the greatest amount of formal education and they maintain this rank by working toward higher degrees. Their salaries are higher than the salaries of teachers in other institutions and about half have other income from teaching. About half of them also have other non-teaching sources of income. They give the NEA first place and the AVA second place among national organizations, prefer the CTA over the CJCFA and CIEA in their membership in state organizations and at the local level they support professional educational associations.

Correctional teachers tend to be older than either high school or junior college teachers and they begin teaching much later. Their institutional settings are distinctively different and they provide the fewest opportunities for women. They begin teaching with much more work experience than the other two groups but have much less formal education. Furthermore, their level of formal education changes the least of any group while they are teaching. Their salaries are well below that of the other two groups when considered on the basis of nine months, but their contracts are for a full year. Fewer correctional teachers have additional income from teaching or other sources. Compared with high school and junior college teachers they support fewer national and state organizations but indicate much more interest in local organizations. Their major affiliations are with the AVA and the CIEA and at the local level they also show more interest in service clubs and labor organizations.

CHAPTER II

CAREERS OF TRADE AND TECHNICAL TEACHERS

CHAPTER II

CAREERS OF TRADE AND TECHNICAL TEACHERS

The careers of trade and technical teachers differ from those of most other groups of teachers. They are unique because the trade and technical teacher must have competency in a particular trade or technical subject. Credentials for trade and technical teachers require competency in a vocational subject area. For this reason, the vocational teacher usually is recruited from the labor force.

Major Subject Areas

In the BDQ the teachers were asked to "select the one course title which best describes the course(s) you teach." One hundred and twenty-seven courses were identified by the respondents from the Course Title Code.[1] Eighty-two and one-half percent of the teachers are teaching in 65 of the areas identified in the Course Title Code. These subject areas have been grouped into 19 major categories in Table 2-1. The remaining teachers offer courses represented by 62 Course Title Codes, but in all cases the number of teachers represented by these course titles is less than one percent of the overall population.

Work Experience

Many trade and technical teachers have had extensive careers prior to teaching. Table 2-2 indicates that 23.4 percent have more

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[1] The Course Title Code is utilized by the Bureau of Industrial Education, California State Department of Education, to identify commonly reported course titles in trade and technical education. (See Appendix II.)

TABLE 2-1

MAJOR SUBJECT AREA CATEGORIES OF TRADE AND TECHNICAL TEACHERS

Subject Area Categories	Number	Percentage
Practical nursing	224	14.1
Electricity-electronics . . .	163	10.3
Automotive	151	9.5
Drafting	107	6.7
Machine shop	91	5.7
Cosmetology	78	4.9
Carpentry	74	4.7
Peace officer	56	3.5
Printing	53	3.3
Dental	51	3.2
Welding	48	3.0
Aircraft	40	2.5
Foods	37	2.3
Medical	31	2.0
Sewing	30	1.9
Radio-television	22	1.4
Architectural landscaping . .	20	1.3
Photography	19	1.2
Sheet metal	16	1.0
Totals	1,311	82.5

TABLE 2-2

YEARS OF FULL-TIME WORK EXPERIENCE OF TEACHERS PRIOR TO TEACHING

Years	Number	Percentage
1 - 4	85	5.4
5 - 9	400	25.2
10 - 14	398*	25.1
15 - 19	288	18.1
20 - 24	215	13.5
25 - 29	112	7.1
30 - 34	36	2.3
35 - 39	6	.4
40 - 44	2	.1
No answer	45	2.8
Totals	1,587	100.0

* The median number of years of full-time work experience prior to teaching is 13.9 years.

than 20 years of work experience, 43.2 percent have ten to 20 years and 30.6 percent have less than ten years. The entire study population has a median of 13.9 years of work experience in a trade or technical field.

Work experience increases with age. Table 2-3 indicates the strength of this association by comparing work experience with the median current age of teachers and the median age at the start of teaching.

However, it apparently is unlikely that teachers have a lengthy career in a trade or technical field in addition to extensive formal education. Table 2-4 indicates a negative relationship between work experience and the percentage of teachers who have academic degrees (bachelor, master or doctor). Teachers with less work experience have higher percentages of degrees and are currently enrolled in a larger percentage of degree programs.

Work experience also is related to institutional employment. (See Table 2-5.) The most striking example of this can be seen in correctional institutions which evidently place higher priority on work experience when they recruit teachers. Almost two-thirds (63.8 percent) have 15 or more years of work experience. This is in sharp contrast to high schools which recruit only 43.0 percent within this range and junior colleges which employ even fewer (40.4 percent) within this group.

Teachers with less work experience have higher percentages of additional employment and teachers with more work experience have lower

TABLE 2-3

MEDIAN AGES OF TEACHERS BY YEARS OF WORK EXPERIENCE PRIOR TO TEACHING

Number of Years	Age at Start of Teaching*	Current Age**
0 - 4	28.1	39.7
5 - 9	30.8	39.3
10 - 14	35.5	44.7
15 - 19	38.8	46.1
20 - 24	42.7	49.1
25 - 29	45.6	52.5
30 and more	50.9	55.3

* The median age at the start of teaching of the overall population is 36.8.

** The median current age of the overall population is 45.9.

TABLE 2-4

ACADEMIC DEGREES AWARDED TEACHERS BY YEARS OF WORK EXPERIENCE PRIOR TO TEACHING

Years of Work Experience	Degrees Prior to Teaching		Current Degrees		Degree Program Enrollment	
	Number	Percentage	Number	Percentage	Number	Percentage
0 - 4	69	12.8	69	9.7	14	6.8
5 - 9	189	35.1	227	31.8	54	26.2
10 - 14	106	19.7	183	25.6	62	30.1
15 - 19	70	13.0	104	14.6	42	20.4
20 - 24	45	8.4	62	8.7	19	9.2
25 - 29	28	5.2	34	4.8	7	3.4
30 and more . .	8	1.5	4	.6	..	..
No answer . . .	23	4.3	31	4.3	8	3.9
Totals . .	538	100.0	714	100.1	206	100.0

TABLE 2-5

YEARS OF WORK EXPERIENCE PRIOR TO TEACHING BY TYPE OF INSTITUTION

Years of Work Experience	High School		Junior College		Correctional	
	Number	Percentage	Number	Percentage	Number	Percentage
0 - 4	13	5.8	62	6.0	3	1.8
5 - 9	57	25.2	293	28.1	18	10.8
10 - 14	59	26.1	266	25.6	38	22.8
15 - 19	56	24.8	174	16.7	36	21.6
20 - 24	24	10.6	128	12.3	39	23.4
25 - 29	11	4.9	68	6.5	19	11.4
30 and more . . .	4	1.8	19	1.8	13	7.8
No answer	2	.9	32	3.1	1	.6
Totals . .	226	100.1	1,042	100.1	167	100.2

percentages of additional employment than the overall population. For example, teachers with ten to 15 years of work experience have a 5 percent higher level of additional supervisory and administrative responsibilities and a 4 percent higher level of other school employment. Teachers with more than 25 years of work experience have from 5 to 7 percent less additional school-related employment. Teachers with more than 30 years of experience have 9 percent less additional employment in non-school-related jobs.

Differences in work experience also are related to membership in organizations. Teachers with much work experience join fewer organizations at the national and state levels and have a unique pattern of affiliation at the local level. For example, teachers with 30 or more years of work experience have 11 percent fewer memberships in national organizations and 16 percent fewer memberships in state organizations than the overall population. At the local level, they have 13 percent more memberships in service organizations and 5 percent more memberships in labor organizations. They have 10 percent fewer memberships in professional educational organizations and 11 percent fewer memberships in educational and cultural organizations.

Although teachers with less work experience do not vary markedly from the overall population in number of organizational memberships, they have a unique pattern of affiliation. For example, teachers with less than five years of work experience have 15 percent fewer memberships (or one-fourth the percentage of memberships in the overall population) in the AVA, 12 percent fewer memberships in the CIEA, but 22 percent more memberships in the CTA. At the local level, teachers with less than five years of work experience have 5 percent more memberships in professional educational organizations and 5.5 percent more memberships in educational and cultural groups. On the other hand, they have 8 percent fewer memberships in both service groups and labor organizations.

Women have much less work experience than their male colleagues. There are twice as many women than would be proportional in the overall population who have less than five years of work experience. In addition, women represent only a small fraction (2.3 percent) of the teachers who have more than 30 years.

Since women teachers are more often unmarried than men (see Table 2-6) their presence in a work experience category also influences its marital status. Hence, the higher percentages of women with less work experience lowers the percentage of married teachers in this group. The lower percentage of women with more work experience raises the percentage of married teachers in this group.

Teaching Situation

A current description of the teaching situations of the respondents is provided in Table 2-7. Nearly 90 percent of the respondents are employed as full-time teachers. Although all of the teachers have full-time credentials, about 8 percent are teaching part-time (with or without other school-related employment). Supervisors

TABLE 2-6

MARITAL STATUS AND SEX OF TEACHERS

Marital Status	Male		Female		Overall Population	
	Number	Percentage	Number	Percentage	Number	Percentage
Never married . . .	21	1.8	73	17.0	94	5.9
Married	1,105	95.5	264	61.4	1,369	86.3
Separated	3	.3	3	.7	6	.4
Divorced	22	1.9	58	13.5	80	5.0
Widowed	6	.5	32	7.4	38	2.4
Totals	1,157	100.0	430	100.0	1,587	100.0

TABLE 2-7

CURRENT TEACHING CLASSIFICATION OF TEACHERS

Classification	Number		Percentage	
Part-time teacher with:				
(a) no other employment	31		2.0	
(b) supervision and/or administration responsibilities . .	35		2.2	
(c) other school employment . . .	18		1.1	
(d) other non-school employment .	45		2.8	
Subtotals		129		8.1
Full-time teacher with:				
(a) no other employment	801		50.5	
(b) additional supervision and/or administration responsibilities	239		15.1	
(c) other school employment . . .	207		13.0	
(d) other non-school employment .	171		10.8	
Subtotals		1,418		89.4
No answer or not employed		40		2.5
Totals		1,587		100.0

and administrators have not been included in the study population, but teachers with additional supervisory and administrative responsibilities have been included.

Two-thirds of the teachers have been teaching less than ten years. (See Table 2-8.) Over 40 percent have been teaching less than five years. The median number of years of full-time teaching experience per teacher is 6.7 years. This is indicative of the large number of teachers who have become vocational teachers in recent years.

Institutional Experience

The teaching careers of vocational teachers vary with the type of institution employing them. An overview of teaching experience within different types of institutions is provided in Table 2-9. Because of the number of junior college teachers in this survey, there is a large block of teaching experience at the junior college level. The second largest block of teaching experience is at the secondary level. The number of teachers indicating high school teaching experience is over twice the number of vocational teachers currently teaching in high schools. This difference reflects the fact that 24.8 percent of the teachers currently teaching in junior colleges have previously taught in high schools. It is evident that teachers also have considerable experience in the adult education programs of the public schools, in the armed services and in other types of institutions. The teaching experience of correctional teachers is in proportion to the number of correctional teachers in the overall population.

TABLE 2-8

YEARS OF FULL-TIME TEACHING EXPERIENCE PER TEACHER

Number of Years	Number	Percentage
0	130	8.2
1 - 4	532	33.5
5 - 9	394*	24.8
10 - 14	251	15.8
15 - 19	121	7.6
20 - 24	59	3.7
25 - 29	56	3.5
30 - 34	17	1.1
35 - 39	13	.9
40 and over	14	.9
Totals	1,587	100.0

[*] The median number of years of full-time teaching experience per teacher is 6.7 years.

TABLE 2-9

FULL-TIME TEACHING EXPERIENCE OF TEACHERS BY TYPE OF INSTITUTION

Type of Institution	Number	Percentage*
Public School		
Elementary	37	2.3
Secondary	538	33.9
College-University	748	47.1
Adult Education		
High School	157	9.9
College	233	14.7
University Extension	5	.4
Private Schools	126	7.9
Commercial Schools	25	1.6
Industry (e.g., Litton, IBM, Hughes, etc.)	52	3.3
Government - Armed Services	129	8.1
Government - Other than Military (includes correctional)	155	9.8
Other	68	4.3

* The total percentage is greater than 100 per cent because a teacher may respond in more than one category.

Credentials

Although this survey was limited to teachers with full-time credentials in vocational education, many other credentials also are held by trade and technical teachers. In fact, Table 2-10 indicates that a median number of 1.7 clear credentials have been awarded per teacher. Table 2-11 identifies these credentials. This is not surprising, since teachers move in and out of the field of vocational education, or desire the ability to do so. Additional credentials are also important for aspiring supervisors or administrators. Supervisory and administrative credentials make teachers eligible for these positions and additional non-vocational credentials broaden their base of eligibility for advancement.

Additional Credentials

The types of credentials which trade and technical teachers obtain in addition to the vocational credential provide additional measures of internal differences within their ranks. The analysis of these differences is based on the assumption that the additional credentials are indicies of individual interests and abilities. Therefore, three groups of credential holders were identified and compared with the overall study population. These 515 teachers included (a) 274 teachers with additional supervisory and administrative credentials, (b) 181 teachers with additional industrial arts credentials and (c) 222 teachers with additional general education credentials.

Almost ten percent of the respondents (9.8 percent) did not consider themselves primarily vocational teachers even though they had

TABLE 2-10

NUMBER OF CLEAR CREDENTIALS PER PERSON

Number of Credentials	Number of Teachers	Percentage
0	347*	21.8
1	619**	39.0
2	339	21.4
3	163	10.3
4	81	5.1
5	19	1.2
6	14	.9
7	3	.2
8	1	.1
9	1	.1
Totals . .	1,587	100.1

* These teachers hold credentials on postponement.
** The median number of credentials per teacher is 1.7.

TABLE 2-11

CREDENTIALS OF TRADE AND TECHNICAL TEACHERS

Credentials	Clear		Renewal, Internship or Postponement	
	Number	Percentage	Number	Percentage
Basic Teaching				
General Elementary	19	1.2	..	..
General Secondary	179	11.3	9	.6
Junior College	53	3.3	9	.6
Special Secondary Vocational - Class A	856	53.9	94	5.9
Special Secondary Vocational - Class B	34	2.1	4	.3
Special Secondary Vocational - Class D	142	8.9	5	.3
Standard Designated Subjects - Full-time	174	11.0	392	24.7
Standard Designated Subjects - Part-time	65	4.1	9	.6
Special Secondary, Industrial Arts	107	6.7	..	..
Special Secondary, Limited in Industrial Arts	59	3.7	15	.9
Special Secondary, Limited, Part-time in Industrial Arts	10	.6	3	.2
Special Secondary in Nursing Education	31	2.0	..	..
Industrial Arts and Occupational Subjects (8.1)	11	.7	24	1.5
Adult Education	34	2.1	3	.2
Other	43	2.7	3	.2
Special Services				
Pupil Personnel	11	.7	6	.4
Health and Development	21	1.3	..	..
Other	9	.6	..	..

TABLE 2-11 (continued)

Credentials	Clear		Renewal, Internship or Postponement	
	Number	Percentage	Number	Percentage
Coordination				
Special Secondary Vocational - Class C-1	81	5.1	..	..
Special Secondary Vocational - Class C-2	4	.3	..	..
Authorization	45	2.8	6	.4
Other	9	.6	..	..
Supervision				
Special Subjects Supervision - Class A	107	6.7	..	..
Special Subjects Supervision - Class B	9	.6	..	..
Standard Supervision, Trade and Technical	112	7.1	..	..
Authorization	26	1.6	1	.1
Other	4	.3	2	.1
Administration				
General Administration	4	.3	..	..
Standard Administration	1	.1	..	..
Elementary Administration	4	.3	..	..
Secondary Administration	29	1.8	..	..
Trade and Industrial Administration	35	2.2	..	..
Other	..	..	..	..

vocational credentials. (See Table 2-12.) To obtain teaching appointments in other fields, it would be necessary for this group of 156 teachers to have other credentials. Although it would be interesting to learn why these teachers do not primarily teach vocational subjects, the question is beyond the purview of this research.

Teachers who have additional credentials differ from the overall population as a group. For example, an examination of their teaching situation in Table 2-13 indicates that all three groups (supervisory and administrative, industrial arts and general education) have a higher percentage of supervisory and administrative responsibilities in addition to their teaching assignments. They also have higher percentages of other school employment. In general, these teachers are involved in additional responsibilities, although there are different patterns of additional work, depending upon the type of individual.

It also was discovered that teachers with additional credentials earn more money. Table 2-14 indicates that high school and junior college teachers with credentials in any of the three groupings earn more money than those in the overall study population. Teachers with general credentials tend to earn the most income, but teachers with supervisory and administrative credentials are not far below. Teachers with industrial arts credentials do not rise as high on the salary scale, but they do earn more as a group than the overall population.

TABLE 2-12

CLASSIFICATION OF COURSE MOST FREQUENTLY TAUGHT BY TEACHERS

Type of Course	Number	Percentage
Trade and technical . . .	1,396	88.0
Industrial arts	140	8.8
Other vocational	33	2.1
Other (i.e., Engineering) .	16	1.0
No answer	2	.1
Totals . .	1,587	100.0

TABLE 2-13

EMPLOYMENT SITUATION OF TEACHERS WITH ADDITIONAL CREDENTIALS

Teaching Situation	Overall Population		Supervision and Administration		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Part-time								
No other employment	31	2.0	..	..	..	..	..	..
Supervision and/or administration responsibilities	35	2.2	11	4.0	3	1.7	10	4.5
Other school employment . .	18	1.1	2	.7	1	.6	1	.5
Other non-school employment .	45	2.8	5	1.8	2	1.1	1	.5
Full-time								
No other employment	801	50.5	116	42.3	69	38.1	95	42.8
Supervision and/or administration responsibilities	239	15.1	74	27.0	31	17.1	51	23.0
Other school employment . .	207	13.0	39	14.2	49	27.1	36	16.2
Other non-school employment .	171	10.8	23	8.4	26	14.4	25	11.3
No answer or not employed . . .	40	2.5	4	1.5	..	..	3	1.4
Totals	1,587	100.0	274	99.9	181	100.1	222	100.2

TABLE 2-14

FULL-TIME SALARIES OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS WITH ADDITIONAL CREDENTIALS

Salary	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Below 5,000 . .	1	.1	..	..	..	..	..	..
5,000 - 5,999 .	4	.4	..	..	1	.6	..	..
6,000 - 6,999 .	28	2.5	..	..	3	1.9	1	.5
7,000 - 7,999 .	97	8.5	2	2.9	9	5.7	5	2.6
8,000 - 8,999 .	156	13.7	6	8.6	14	8.9	12	6.3
9,000 - 9,999 .	230	20.2	7	10.0	21	13.4	21	11.1
10,000 - 10,999 .	238	20.9	14	20.0	36	22.9	42	22.1
11,000 - 11,999 .	222	19.5	21	30.0	39	24.8	50	26.3
12,000 - 12,999 .	119	10.5	16	22.9	26	16.6	43	22.6
13,000 - 13,999 .	37	3.3	4	5.7	8	5.1	14	7.4
14,000 - 14,999 .	5	.4	..	..	..	..	2	1.1
15,000 or more .	1	.1	..	..	..	..	..	..
Totals . . .	1,138	100.1	70	100.1	157	99.9	190	100.0

Additional income from school and non-school employment is also higher for teachers who have additional credentials. (See Tables 2-15 and 2-16.) Teachers with supervisory and administrative credentials tend to earn less additional income than either of the other two groups, but more than the overall population. Although teachers with credentials in industrial arts and general education report similar levels of additional income, the industrial arts group earns slightly more from school sources and the general education groups earns slightly more from non-school sources.

In general, all three groups of teachers with additional credentials earn more regular and additional income than the overall population. But those with general education credentials tend to earn the most.

A higher percentage of teachers with these three types of additional credentials also belong to national, state and local organizations. (See Tables 2-17, 2-18 and 2-19.) Furthermore, they belong to a larger number of organizations than the overall population. (See Tables 2-20 and 2-21.) Among national organizations, teachers with credentials in supervision and administration have a higher percentage of membership in the AVA; teachers with industrial arts credentials have a higher percentage of membership in the AIAA; and teachers with general education credentials have a higher percentage of membership in the NEA.

TABLE 2-15

ADDITIONAL TEACHING INCOME OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS WITH ADDITIONAL CREDENTIALS

Salary	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
None	525	47.7	27	40.3	50	32.7	63	34.1
Below 1,000	232	21.1	13	19.4	40	26.1	46	24.9
1,000 - 1,999	238	21.6	12	17.9	44	28.8	45	24.3
2,000 - 2,999	77	7.0	11	16.4	13	8.5	24	13.0
3,000 - 3,999	16	1.5	2	3.0	3	2.0	5	2.7
4,000 - 4,999	4	.4	2	3.0	2	1.3	1	.5
5,000 or more	8	.7	..	..	1	.7	1	.5
Totals	1,100	100.0	67	100.0	153	100.1	185	100.0

TABLE 2-16

ADDITIONAL NON-EDUCATIONAL INCOME OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS WITH ADDITIONAL CREDENTIALS

Salary	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
None	490	44.4	28	40.6	59	38.1	70	38.3
Below 1,000 . . .	250	22.7	16	23.2	52	33.5	44	24.0
1,000 - 1,999 . .	132	12.0	10	14.5	21	13.5	27	14.8
2,000 - 2,999 . .	81	7.3	4	5.8	12	7.7	11	6.0
3,000 - 3,999 . .	48	4.4	5	7.2	5	3.2	13	7.1
4,000 - 4,999 . .	23	2.1	2	2.9	2	1.3	3	1.6
5,000 or more . .	79	7.2	4	5.8	4	2.6	15	8.2
Totals	1,103	100.1	69	100.0	155	99.9	183	100.0

TABLE 2-17

MEMBERSHIPS OF TEACHERS WITH ADDITIONAL CREDENTIALS IN NATIONAL ORGANIZATIONS

Organizations	Overall Population		Supervision and Administration		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Adult Education Association of the USA	22	1.4	4	1.5	2	1.1	5	2.3
American Industrial Arts Association	107	6.3	24	8.8	28	15.5	21	9.5
American Vocational Association	332	20.9	103	37.6	45	24.9	61	27.5
National Education Association	343	21.6	63	23.0	45	24.9	62	27.9

TABLE 2-18

MEMBERSHIPS OF TEACHERS WITH ADDITIONAL CREDENTIALS IN STATE ORGANIZATIONS

Organizations	Overall Population		Supervision and Administration		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
California Council for Adult Education	31	2.0	6	2.2	4	2.2	6	2.7
California Industrial Education Association . .	612	38.6	157	57.3	123	68.0	118	53.2
California Junior College Faculty Association . . .	440	27.7	82	29.9	50	27.6	87	39.2
California Teachers Association	763	48.1	138	50.4	116	64.1	147	66.2
California Vocational Association	186	11.7	44	16.1	12	6.6	22	9.9

TABLE 2-19

MEMBERSHIP OF TEACHERS WITH ADDITIONAL CREDENTIALS IN LOCAL ORGANIZATIONS

Type of Organization	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Professional educational .	1,000	63.0	205	74.8	144	79.6	187	84.4
Labor	149	15.7	63	23.0	33	18.2	26	11.8
Trade or professional . .	655	41.3	112	40.9	39	21.6	95	42.9
Fraternities or sororities	289	18.2	76	28.1	76	42.0	92	46.0
Civic and political	234	14.7	42	15.3	29	16.0	32	14.5
Educational and cultural .	499	31.4	97	35.4	81	44.8	82	40.4
Military and veteran . . .	194	12.2	41	15.0	24	13.3	33	14.9
Recreational	370	23.3	73	26.6	54	29.9	71	31.9
Religious	439	27.7	79	28.8	53	29.3	59	25.2
Service	340	21.4	75	27.4	42	23.2	57	25.7
Youth and children's sponsor	293	18.5	61	22.3	45	24.9	37	16.6

TABLE 2-20

NUMBER OF MEMBERSHIPS IN NATIONAL ORGANIZATIONS OF TEACHERS WITH ADDITIONAL CREDENTIALS

Number of Memberships	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0	835	52.6	93	33.9	79	43.6	88	39.6
1	516	32.6	116	42.3	67	37.0	86	38.7
2	169	10.6	45	16.4	22	12.2	30	13.5
3	46	2.9	16	5.8	10	5.5	11	5.0
4	15	.9	4	1.5	2	1.1	6	2.7
5	3	.2	..	..	..	..	..	..
6	2	.1	..	..	1	.6	1	.5
7	1	.1	..	..	..	..	..	..
Totals	1,587	100.0	274	99.9	181	100.0	222	100.0

TABLE 2-21

NUMBER OF MEMBERSHIPS IN STATE ORGANIZATIONS OF TEACHERS WITH ADDITIONAL CREDENTIALS

Number of Memberships	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0	291	18.3	31	11.3	15	8.3	15	6.8
1	611	38.5	85	31.0	56	30.9	70	31.5
2	430	27.1	92	33.6	71	39.2	84	37.8
3	201	12.7	50	18.2	34	18.8	40	18.0
4	43	2.7	11	4.0	5	2.8	12	5.4
5	8	.5	3	1.1	..	..	..	..
6	2	.1	2	.7	..	..	1	.5
7	1	.1	..	..	..	..	..	..
Totals	1,587	100.0	274	99.9	181	100.0	122	100.0

The most pronounced differences in organizational membership between additional credential holders and the overall population are to be found at the state level. All three groups indicate much larger percentages of membership in the CIEA and the CTA. Beyond these two organizations, some differences between the three groups are distinguishable. For example, a higher percentage of those with supervisory and administrative credentials belong to the CVA and a higher percentage of teachers with general education credentials support the CJCFA. It is also apparent that a higher percentage of the industrial arts and general education groups are members of the CTA.

Group differences also are evident in the patterns of local affiliation. For example, the industrial arts group and the general education group have higher percentages belonging to fraternities and sororities. The holders of general education credentials have markedly fewer members in labor groups and a much higher percentage of membership in professional educational organizations.

When the educational factor is used to describe holders of additional credentials, an aggressive interest in formal education is revealed. For example, Table 2-22 reveals that teachers with additional credentials have more education than the overall study population. Some of this education was acquired prior to teaching (Table 2-23), and some during their teaching careers. Teachers with supervisory and administrative interests began teaching with less formal education but raised their levels of education while teaching. The industrial

TABLE 2-22

CURRENT EDUCATIONAL ATTAINMENT OF TEACHERS WITH ADDITIONAL CREDENTIALS

Educational Level	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
High school diploma . .	82	5.1	9	3.3	1	.6	..	..
Junior college courses .	219	13.8	35	12.8	3	1.7	5	2.3
Junior college degree .	88	5.5	12	4.4	4	2.2	3	1.4
Registered nurse . . .	39	2.5	1	.4	..	..	..	..
College or university (non-extension) . .	411	25.9	74	27.0	21	11.6	6	2.7
Bachelor degree . . .	466	29.4	74	27.0	91	50.3	72	32.4
Master degree	235	14.8	60	21.9	57	31.5	129	58.1
Doctor degree	13	.8	5	1.8	1	.6	6	2.7
No answer	34	2.1	4	1.5	3	1.7	1	.5
Totals	1,587	99.9	274	100.1	181	100.2	222	100.1

TABLE 2-23

EDUCATIONAL ATTAINMENT OF TEACHERS WITH ADDITIONAL CREDENTIALS AT START OF TEACHING

Educational Level	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
High school diploma . .	348	21.9	75	27.3	31	17.2	17	7.7
Junior college courses .	244	15.4	57	20.8	13	7.2	11	5.0
Junior college degree .	125	7.9	21	7.7	13	7.2	13	5.9
Registered nurse . . .	72	4.5	5	1.8	1	.6	1	.5
College or university (non-extension) . .	252	15.9	39	14.2	25	13.8	14	6.3
Bachelor degree . . .	440	27.7	59	21.5	91	50.3	116	52.3
Master degree	87	5.5	15	5.5	7	3.9	46	20.7
Doctor degree	11	.7	3	1.1	..	..	4	1.8
No answer	8	.5	..	..	..	..	..	..
Totals	1,587	100.0	274	99.9	181	100.2	222	100.2

arts group and the general education group are markedly different. Approximately 54 percent of the industrial arts group and approximately 75 percent of the general education group had bachelor or master degrees when they began teaching. Although each group acquired additional education, their rank relative to each other has remained the same.

When current enrollment and planned enrollment of teachers with additional credentials are compared to educational plans of the overall population in Tables 2-24 and 2-25, several interesting generalizations can be made. For example, a higher percentage of teachers with additional credentials report they have no further objectives in formal education when all levels of education are considered. They also report less current enrollment than the overall population. This is not surprising, since a higher percentage of these teachers have already accomplished the objectives of higher education. The data also indicate that their enrollment in college and university extension courses is especially low. This suggests that these teachers no longer have as great a need for these courses for credential requirements. But paradoxically, a higher percentage of them continue to work toward degrees not yet acquired.

In general, all three of these groups appear to be aggressive in their acquisition of additional formal education. Although each group begins teaching with varying amounts of formal education, they all continue to acquire more formal education than the overall study population. The contrast is most evident when comparing the general education teachers, who begin with much formal education, to the

TABLE 2-24

CURRENT ENROLLMENT OF TEACHERS WITH ADDITIONAL CREDENTIALS

Educational Level	Overall Population		Supervisory and Administrative		Industrial Atrs		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Not currently enrolled . .	854	53.8	162	59.1	122	67.4	160	72.1
Junior college courses . .	122	7.7	23	8.4	5	2.8	3	1.4
Junior college degree . .	18	1.1	4	1.5	1	.6	..	..
College or university (extension only) . . .	257	16.2	11	4.0	17	9.4	13	5.9
College or university (non-extension) . . .	106	6.7	16	5.8	7	3.9	10	4.5
Bachelor degree	79	5.0	22	8.0	4	2.2	1	.5
Master degree	107	6.7	26	9.5	15	8.3	20	9.0
Doctor degree	20	1.3	8	2.9	5	2.8	12	5.4
No answer	24	1.5	2	.7	5	2.8	3	1.4
Totals	1,587	100.0	274	99.9	181	100.2	222	100.2

TABLE 2-25

EDUCATION PLANNED BY TEACHERS WITH ADDITIONAL CREDENTIALS

Educational Level	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
No further objectives in formal education . .	228	14.4	46	16.8	35	19.3	63	28.4
Junior college courses . . .	26	1.6	1	.4	1	.6	..	..
Junior college degree . . .	40	2.5	7	2.6	..	..	..	..
College or university (extension only)	199	12.5	21	7.7	15	8.3	18	8.1
College or university (non-extension)	206	13.0	35	12.8	32	17.7	55	24.8
Bachelor degree	407	25.6	72	26.3	18	9.9	6	2.7
Master degree	356	22.4	61	22.3	60	33.1	41	18.5
Doctor degree	107	6.7	30	10.9	20	11.0	38	17.1
No answer	18	1.1	1	.4	..	..	1	.5
Totals	1,587	99.8	274	100.2	181	99.9	222	100.1

supervisor-administrator group, which begins with less formal education than the overall population. Because a large percentage of industrial arts teachers begin teaching with a bachelor degree, they rank well above the overall population, but below the general education group.

The percentage of women with additional credentials is markedly low for each of the three groups when compared with the overall population. Table 2-26 indicates that very few women have industrial arts credentials and that larger percentages have supervisory, administrative and general education credentials.

Married teachers have slightly higher percentages of additional credentials than single teachers, as indicated in Table 2-27. The only exception to this generalization is the relatively small percentage of widowed teachers with supervisory and administrative credentials.

Some of the most striking differences between each group of teachers with additional credentials are revealed in the institutional distributions of Table 2-28. Correctional teachers include twice as many supervisory and administrative credential holders as would be proportional in the overall population. High schools have three times as many industrial arts credential holders as would be proportional. Junior colleges have a significantly lower percentage of teachers with industrial arts credentials and a significantly higher percentage of teachers with general education credentials than the overall population.

Age differences between the multi-credential groups and the overall population are indicated in Tables 2-29 and 2-30. Teachers with supervisory, administrative and general education credentials

TABLE 2-26

SEX OF TEACHERS WITH ADDITIONAL CREDENTIALS

Sex	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Male	1,157	72.9	226	82.5	176	97.2	186	83.8
Female	430	27.1	48	17.5	5	2.8	36	16.2
Totals	1,587	100.0	274	100.0	181	100.0	222	100.0

TABLE 2-27

MARITAL STATUS OF TEACHERS WITH ADDITIONAL CREDENTIALS

Marital Status	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Never married	94	5.9	6	2.2	3	1.7	10	4.5
Married	1,367	86.1	246	89.8	174	96.1	197	88.7
Separated	6	.4	..	..	1	.6	9	4.1
Divorced	80	5.0	12	4.4	2	1.1	5	2.3
Widowed	38	2.4	10	3.6	1	.6	..	..
No answer	2	.1	..	..	..	..	1	.5
Totals	1,587	99.9	274	100.0	181	100.1	222	100.1

TABLE 2-28

TEACHERS WITH ADDITIONAL CREDENTIALS BY TYPE OF INSTITUTION

Type of Institution	Overall Population		Supervisory and Administrative		Industrial Arts		General Education	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
High school	226	14.2	27	9.9	76	42.0	40	18.0
Junior college	1,042	65.7	171	62.4	89	49.2	164	73.9
Correctional	167	10.5	58	21.2	3	1.7	5	2.3
Others	115	7.2	11	4.0	10	5.5	10	4.5
No answer	37	2.3	7	2.6	3	1.7	3	1.4
Totals	1,587	99.9	274	100.1	181	100.1	222	100.1

TABLE 2-29

AGE OF TEACHERS WITH ADDITIONAL CREDENTIALS

Age	Overall Population*		Supervisory and Administrative*		Industrial Arts*		General Education*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 25	20	1.3	2	.7	4	2.2	3	1.4
25 - 29	50	3.2	1	.4	7	3.9	5	2.3
30 - 34	130	8.2	16	5.8	19	10.5	19	8.6
35 - 39	245	15.4	36	13.1	29	16.0	28	12.6
40 - 44	286	18.0	54	19.7	28	15.5	36	16.2
45 - 49	345	21.7	69	25.2	41	22.7	47	21.2
50 - 54	283	17.8	66	24.1	31	17.1	50	22.5
55 - 59	146	9.2	21	7.7	18	9.9	23	10.4
60 and over	75	4.7	8	2.9	4	2.2	10	4.5
No answer	7	.4	1	.4	..	..	1	.5
Totals	1,587	99.9	274	100.0	181	100.0	222	100.2

* The median ages are:
Overall Population . . . 45.9
Supervisory and
Administrative 47.0
Industrial Arts 45.5
General Education . . . 47.1

TABLE 2-30

AGE OF TEACHERS WITH ADDITIONAL CREDENTIALS AT START OF TEACHING

Age	Overall Population*		Supervisory and Administrative*		Industrial Arts*		General Education*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 25	102	6.4	15	5.4	16	8.8	35	15.8
25 - 29	242	15.2	42	15.3	52	28.7	59	26.6
30 - 34	319	20.1	63	23.0	43	23.8	40	18.0
35 - 39	357	22.5	71	25.9	37	20.4	45	20.3
40 - 44	302	19.0	51	18.6	24	13.3	22	9.9
45 - 49	173	10.9	25	9.1	7	3.9	14	6.3
50 - 54	68	4.3	5	1.8	2	1.1	4	1.8
55 - 59	18	1.1	1	.4	..	..	2	.9
No answer	6	.4	1	.4	..	..	1	.5
Totals	1,587	99.9	274	99.9	181	100.0	222	100.1

* The median ages are:
Overall Population . . . 36.8
Supervisory and
Administrative 36.2
Industrial Arts 32.7
General Education . . . 32.1

tend to be older than the general population. Teachers with industrial arts credentials tend to be slightly younger. However, when they began to teach, industrial arts and general education teachers had a median age about four years younger than the overall population. Teachers with supervisory and administrative credentials had a median age about a half-year younger than the overall group when they began to teach.

Here, as elsewhere in this study, age seems to parallel the work experience factor instead of the education factor. The industrial arts group and the general education group began teaching at a younger age and had less work experience than either the supervisor-administrator group or the overall population. (However, they had more formal education. See Table 2-23.) On the other hand, the supervisor-administrator group, which had more work experience than the other two groups and the overall population, also began teaching later.

In summary, teachers with additional credentials in these three groups tend to be married males who have more supervisory-administrative responsibilities and other school employment. They earn more money from their full-time teaching contracts and from other school and non-school sources. They have more formal education and are aggressively working for degrees. They also tend to belong to more organizations, especially at the state level.

Teachers with additional supervisory and administrative credentials are older, have more work experience, earn more extra income from school-related jobs, had less education than the overall population when they began to teach and are over-represented in correctional institutions.

Teachers with industrial arts credentials are younger, rank low in work experience, have more education, began teaching at a younger age and are over-represented in high schools. Teachers with general education credentials tend to be older, are low in work experience, have the greatest amount of formal education of any group compared, began teaching at a younger age and are disproportionately represented in the junior colleges.

Income

Income is one of the vital concerns of the trade and technical teacher. He is especially concerned about the criteria utilized by the school system to reward him on the salary schedule. The following analysis identifies and describes a number of factors which are related to the salary of the trade and technical teacher. The analysis is based on 1,146 full-time teachers who teach in high schools and junior colleges only. By selecting these two groups, the problem of equating salaries of different contractual periods was avoided.

Salary of trade and technical teachers is related to age. It is commonly known that salary schedules reflect the length of time a teacher remains in the school district. Since older teachers have had more opportunity to build seniority in the district, it is not surprising that they have a salary advantage that is reflected in the data of this survey. This can be seen in Table 2-31 where the median age in the salary categories increases as salary increases.

The educational factor is also rewarded on the salary schedule. This can be observed in Table 2-32. For example, only 42.5 percent of

TABLE 2-31

MEDIAN AGE OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS BY SALARY*

Salary	Median Age
$ 6,000 - 6,999	34.9
7,000 - 7,999	41.5
8,000 - 8,999	42.1
9,000 - 9,999	42.8
10,000 - 10,999	47.4
11,000 - 11,999	46.5
12,000 - 12,999	48.3
13,000 - 13,999	49.0
14,000 or more	54.9

* The median overall age is 45.9 years.

TABLE 2-32

EDUCATIONAL ATTAINMENT OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS BY SALARY

Salary	Less than a Bachelor Degree		Bachelor Degree		Master Degree		Doctor Degree	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Below 5,999	3	.6	2	.5	..	..	..	..
6,000 - 6,999 . . .	18	3.3	9	2.4	1	.5	..	..
7,000 - 7,999 . . .	69	12.8	22	5.8	3	1.6	..	..
8,000 - 8,999 . . .	90	16.7	53	14.0	11	5.8	..	..
9,000 - 9,999 . . .	131	24.3	72	19.0	24	12.6	..	..
10,000 - 10,999 . . .	111	20.6	83	22.0	35	18.3	2	20.0
11,000 - 11,999 . . .	85	15.7	80	21.2	52	27.2	3	30.0
12,000 - 12,999 . . .	21	3.9	49	13.0	48	25.1	..	..
13,000 - 13,999 . . .	9	1.7	7	1.9	17	8.9	3	30.0
14,000 and more . . .	3	.6	1	.3	..	..	2	20.0
Totals . . .	540	100.2	378	100.1	191	100.0	10	100.0

those with less than a bachelor degree are receiving $10,000 or more; but 100.0 percent of those with doctoral degrees, 79.5 percent of those with master degrees and 58.4 percent of those with bachelor degrees are earning more than $10,000.

Present enrollment in educational programs indicates an entirely different pattern of relationship with salary. Table 2-33 does not support the proposition that teachers enrolled in courses earn more than those not enrolled. Most of the teachers not enrolled (70.2 percent) are earning more than $10,000. A significant portion of those enrolled in master programs (58.7 percent) and doctoral programs (66.7 percent) are earning more than $10,000, but only 33.3 percent of those enrolled in bachelor programs and only 28.6 percent of those enrolled in other programs are earning more than $10,000. We suspect that those enrolled in degree programs are mainly younger teachers making an investment for the future, while many teachers not enrolled have already made this investment. If this be the case, then working for a degree is related to postponed satisfactions, since possessing a degree is definitely related to increased income.

The institutional factor also influences income. Table 2-34 reports that junior college teachers are under-represented in the salary groups below $9,000 and are over-represented in the salary groups above $9,000. Only junior college teachers have salaries above $13,000.

In addition, the percentage of teachers with additional supervisory and administrative responsibilities increases as salary increases above $7,000. Similarly, the percentage of teachers who obtain income

TABLE 2-33

EDUCATIONAL ENROLLMENT OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS BY SALARY

Salary	Not Enrolled		Enrolled							
			Less Than a Bachelor Degree		Bachelor Degree		Master Degree		Doctor Degree	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Below 5,999 . . .	3	.5	1	.3	..	..	1	1.1	..	..
6,000 - 6,999 . .	5	.8	15	4.4	6	10.5	2	2.2	..	..
7,000 - 7,999 . .	28	4.5	54	15.9	6	10.5	5	5.4	..	..
8,000 - 8,999 . .	51	8.2	80	23.6	12	21.1	11	12.0	1	6.7
9,000 - 9,999 . .	98	15.7	92	27.1	14	24.6	19	20.7	4	26.7
10,000 - 10,999 . .	151	24.2	56	16.5	9	15.8	20	21.7	..	..
11,000 - 11,999 . .	162	26.0	27	8.0	8	14.0	21	22.8	3	20.0
12,000 - 12,999 . .	93	14.9	11	3.2	..	..	11	12.0	3	20.0
13,000 - 13,999 . .	27	4.3	3	.9	2	3.5	2	2.2	3	20.0
14,000 and more . .	5	.8	..	..	..	..	..	..	1	6.7
Totals . . .	623	99.9	339	99.9	57	100.0	92	100.1	15	100.1

TABLE 2-34

FULL-TIME SALARIES OF HIGH SCHOOL AND JUNIOR COLLEGE TRADE AND TECHNICAL TEACHERS BY TYPE OF INSTITUTION

Salary	High School		Junior College	
	Number	Percentage	Number	Percentage
Below 5,999	3	1.4	2	.2
6,000 - 6,999	18	8.3	10	1.1
7,000 - 7,999	39	18.1	58	6.3
8,000 - 8,999	40	18.5	116	12.6
9,000 - 9,999	43	19.9	187	20.3
10,000 - 10,999	37	17.1	201	21.8
11,000 - 11,999	28	13.0	194	21.0
12,000 - 12,999	8	3.7	111	12.0
13,000 - 13,999	..	..	37	4.0
14,000 or more	..	..	6	.7
Totals	216	100.0	922	100.0

from teaching in addition to their full-time contract increases from 20 to 70 percent with increases in regular salary.

Work experience is not a significant factor in the salary of trade and technical teachers. It may be a factor in the salary schedules of particular school districts but it does not correlate with income for the overall study population. Further discussion of work experience in the careers and attitudes of trade and technical teachers appears elsewhere in this report.

It is also noteworthy that the percentage of membership in organizations increases as salary increases. However, there are distinctive patterns of organizational affiliation which relate to income. These factors also are discussed below.

Summary

The career of a vocational teacher is preceded by a career in a trade or technical field. In fact, trade and technical teachers have more extensive vocational careers (a median of 13.9 years per teacher) than in vocational teaching (a median of 6.7 years per teacher). Eighty-two and one-half percent of those surveyed were recruited from and now teach in 19 major subject areas.

Work experience increases with the age of teachers and is disproportionately high among correctional teachers. On the other hand, work experience decreases with education, with memberships in national and state organizations and with additional employment. Women have less work experience than men. Junior colleges and high schools employ teachers with median years of work experience below that of the overall study population.

Ninety percent of the teachers with full-time vocational credentials are teaching full-time. The three largest blocks of teaching experience are in junior colleges and high schools and in the adult programs of public schools. One-fourth (24.8 percent) of the junior college teachers have taught in high schools. But teaching experience in correctional institutions is proportional to the percentage of correctional teachers in the overall study population.

Vocational teachers have a median of 1.7 clear credentials per person. Teachers with additional credentials tend to be married men who have higher salaries, earn more additional income and join more organizations than the overall population. Those who have additional supervisory and administrative credentials tend to be older, to have more work experience and to earn higher salaries; they have had less education at the start of teaching than the overall population. Correctional teachers have a disproportionately high percentage of these credentials. Teachers with additional industrial arts credentials have less work experience and more education. They began teaching at a younger age and are currently younger. High school teachers have a disproportionately high percentage of additional industrial arts credentials. Teachers with additional general education credentials are low in work experience and have much more education. Although they are currently older, they started teaching younger than the overall population. Junior college teachers have a disproportionately high percentage of additional general education credentials.

As the education and the age of teachers increase, their income also increases, because these factors are related to teaching contracts. However, junior college teachers earn more income than high school teachers; teachers with additional supervisory and administrative responsibilities earn more income than other teachers; and teachers with more organizational affiliations earn more income.

Income from additional teaching jobs increases as salary increases. However, work experience is not a significant factor influencing salaries.

CHAPTER III

EDUCATION OF TRADE AND TECHNICAL TEACHERS

CHAPTER III

EDUCATION OF TRADE AND TECHNICAL TEACHERS

The trade and technical teacher must qualify educationally as well as vocationally for his place in the educational system. For example, the following requirement for the Standard Designated Subjects Teaching Credential with a specialization in vocational trade and technical teaching specifies both qualifications.

> Subject Matter Preparation. A total of seven years of preparation in one of the following combinations of educational preparation and qualifying experience, one year of the required experience to be within the three years preceding the date of application:
>
> (A) An engineering degree or registration as a professional engineer in the State of California (or other equivalent technical preparation and professional registration) and, in addition, three years of industrial or appropriate occupational experience.
>
> (B) A baccalaureate degree and, in addition, three years of occupational experience consonant with the major field of the degree and related to the occupational field to be named in the credential.
>
> (C) An associate degree or 60 semester hours of course work from an approved institution, and three years of experience as a journeyman or comparable qualified worker in addition to an apprenticeship or other recognized equivalent occupational preparation in the trade or technical occupation to be named in the credential.[1]

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[1] California Administrative Code, Title 5, Education, Chapter 1, Subchapter 2, Article 8.

In addition, the credential requires ten semester hours of approved elective courses and a professional preparation program of 12 semester hours offered by the Division of Vocational Education at the University of California. Examinations for subject matter competency are measured with written and/or manipulative examinations.

Frequently, the trade and technical teacher finds that he is being compared with his academic colleagues on educational criteria alone. Most of the time, however, the educational characteristics of the teachers are unknown. It is hoped that the descriptions of formal education in this report will correct some of the misconceptions about the educational background of trade and technical teachers.

Comparative Studies

Certain "benchmarks" in the trends of formal education of teachers can be assessed by a careful and qualified study of other surveys. For example, Melvin L. Barlow and Gail E. Moore[2] made a study of 578 "teachers entering trade and industrial education from 1945 - 1950." David Allen[3] also surveyed 1,011 trade and technical teachers "who received their first credential from July, 1955 - June, 1962." To utilize comparative data to assess the changing levels of formal education among recent entrants, 597 teachers who entered teaching since

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[2] Melvin L. Barlow and Gail E. Moore, A Study of Teachers Entering Trade and Industrial Education, (Los Angeles: Division of Vocational Education, University of California, 1953).

[3] David Allen, A Study of Trade and Technical Teachers Who Received First Credentials July 1955 - June 1962, (Los Angeles: Division of Vocational Education, University of California, 1963).

1962 were selected from the respondents in the current survey.[4] The data from these three recent entrant surveys are reported in Table 3-1.

From these data we can assess the changing level of formal education of recent entrants into the trade and technical teacher force. We observe that there is an obvious trend toward higher levels of education among recent entrants. For example, Barlow and Moore found that 58.1 percent of their sample had no more than a high school diploma; Allen found that the figure had been reduced to 38.7 percent; and the current survey found that this level had been further reduced to 15.9 percent among recent entrants.

At the same time that the number of teachers with no more than a high school level of education was declining, the number of teachers with academic degrees was increasing. For example, Barlow and Moore found that only 21.1 percent of the entrants during the early period had bachelor, master or doctoral degrees; Allen discovered that this figure had increased to 32.7 percent; and the recent entrants in the current study raised this figure even further to 35.4 percent.

Although the findings of surveys of recent entrants do not characterize the total population of trade and technical teachers, they do indicate an increasingly strong trend toward more education. If the total trade and technical teacher population had been surveyed,

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[4] The number of recent entrants from the 1967 survey is only a sample of the total population of new teachers since 1962. It is our judgment that the sample under-represents the most recent entrants and therefore under-emphasizes the trends.

TABLE 3-1

FORMAL EDUCATION OF "RECENT ENTRANTS" AT THE START OF TEACHING

Level of Education	1953		1962		1967	
	Number	Percentage	Number	Percentage	Number	Percentage
High school diploma	336	58.1	391	38.7	95	15.9
Junior college courses . .	*	*	65	6.4	112	18.8
Junior college degree . . .	*	*	76	7.5	56	9.4
Registered nurse	*	*	55	5.7	38	6.4
University courses (non-extension)	115	19.9	91	9.0	85	14.2
Bachelor degree	93	16.1	245	24.2	175	29.3
Master degree	28	4.8	82	8.1	29	4.9
Doctor degree	1	.2	4	.4	7	1.2
No answer	5	.9	2	.2	..	..
Totals	578	100.0	1,011	100.2	597	100.1

* Data uncollected

the educational levels in the earlier studies would have been lower. However, this strong trend toward more education among recent entrants indicates that the total population of trade and technical teachers will have more formal education in the future. This trend is undoubtedly a reflection of higher standards in credentials, increased educational demands of school districts and the increased educational level of the society as a whole.

Comparative data on the educational level of the trade and technical teacher at the time of the survey (rather than at the time that they entered teaching) are more difficult to obtain. However, another survey by Barlow and Moore[5] made in 1955 reports the "current" information at that time of 621 teachers who entered teaching from 1945 to 1955. Although this survey does not include teachers who began teaching prior to this ten-year period, it is the only available "status" study describing the level of education at the time of the survey. Table 3-2A, which was constructed from data in the 1955 survey, indicates the number of bachelor, master and doctoral degrees awarded the teachers. Unfortunately, we do not know how many teachers this represents because some teachers undoubtedly hold more than one degree. Nevertheless, when the percentages for each type of degree in Table 3-2A are compared with the percentages in Table 3-2B, which reports only the highest degree obtained, the increase in formal education is obvious.

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[5] Melvin L. Barlow and Gail E. Moore, A Survey of Trade and Industrial Teachers (Los Angeles: Division of Vocational Education, University of California, 1955).

TABLE 3-2A

ACADEMIC DEGREES HELD BY TEACHERS CREDENTIALED FULL-TIME BETWEEN 1945 AND 1955

Degree	Number	Percentage
Bachelor degree . . .	143	23.0
Master degree	49	7.8
Doctor degree	3	.5
Totals	195	*

* These percentages are not accumulative, i.e., they do not represent the percentages of the sample with academic degrees.

TABLE 3-2B

HIGHEST DEGREE ATTAINED BY TEACHERS IN 1967

Degree	Number	Percentage
Bachelor degree . . .	466	29.4
Master degree	235	14.8
Doctor degree	13	.8
Totals	714	45.0

Institutional Employment

The type of institution in which the teacher is employed is also a discriminatory factor. Table 1-5 indicates that junior colleges have a slightly larger percentage of teachers with bachelor, master or doctoral degrees than the high schools. However, correctional institutions have a much lower percentage of teachers with these degrees. Conversely, correctional institutions have a much larger percentage of teachers at the lower educational levels.

The institutional factor is also significant when current and anticipated enrollment are compared in Table 1-6. High schools have the highest percentage of teachers planning to enroll and also the highest percentage of teachers actually enrolled in degree programs. Correctional institutions fall far below both the high schools and the junior colleges in the percentages for both categories.

Age

The significance of the age factor can be observed clearly in Table 3-3, where the number of teachers currently holding academic degrees in each age category is compared with the number of the teachers who held the degrees prior to teaching. Younger teachers not only have more education when they begin teaching; they also have more education currently. The higher percentages of change in the 40 - 59 age groups may be due to the fact that they had less education at the start of teaching, and have had more time to increase their education. It also must be kept in mind that an undetermined number of teachers

TABLE 3-3

TEACHERS WITH ACADEMIC DEGREES AWARDED BEFORE AND DURING TEACHING BY AGE

Age	Degree Before Teaching					Present Degree					Percent of Change
	Degree			Total		Degree			Total		
	Bachelor	Master	Doctor	Total Number	Percentage of Age Group	Bachelor	Master	Doctor	Total Number	Percentage of Age Group	
Under 25	4	..	..	4	20.0	5	2	..	7	35.0	15.0
25 - 29	24	2	1	27	54.0	20	6	1	27	54.0	..
30 - 34	61	9	..	70	53.0	55	23	..	78	60.0	7.0
35 - 39	81	14	1	96	39.2	79	32	1	112	45.7	6.5
40 - 44	81	19	1	101	35.3	85	45	1	131	45.8	10.5
45 - 49	87	15	3	105	30.4	91	57	3	151	43.7	13.3
50 - 54	63	13	4	80	28.3	80	37	6	123	43.4	15.1
55 - 59	27	7	1	35	23.9	34	21	1	56	38.3	14.4
60 and over	10	6	..	16	21.3	14	9	..	23	30.7	9.4

have advanced themselves into supervisory and administrative assignments and are not included in the data.

Educational Mobility and Stability

A more complete educational profile of the current teaching force is reported in Table 3-4. In general, the table indicates a movement toward higher levels of education. For example, 21.9 percent of the teachers had no more than high school diplomas when they started teaching but this percentage was reduced to 5.1 at the time of the survey. The proportion of those who had been awarded degrees had advanced from 33.9 percent to 45.0 percent. Furthermore, 13.0 percent of the teachers report enrollment in degree programs and 54.7 percent state that they anticipate enrollment in a degree program. It is evident that teachers not only are being recruited with more education; they also are motivated toward more education.

The phenomenon of educational mobility raises the question of the characteristics of the educationally mobile and educationally stable groups. To answer this question a descriptive study was conducted to characterize those teachers who had raised their educational level.

One of the obvious differences between the mobile and stable groups reported in Table 3-5 is that the mobile group started teaching at a younger age than the stable group. On the other hand, the mobile group currently is older than the stable group. The table also indicates a tendency for younger teachers to have degrees

TABLE 3-4

EDUCATIONAL ADVANCEMENT OF TEACHERS

Level of Formal Education	Status Prior to Teaching		Current Status		Current Enrollment		Anticipated Enrollment	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
High school diploma	348	21.9	82	5.1	*	*	*	*
Junior college courses . . .	244	15.4	219	13.8	122	7.7	26	1.6
Junior college degree . . .	125	7.9	88	5.5	18	1.1	40	2.5
Registered nurse	72	4.5	39	2.5	*	*	*	*
College or university courses (extension only) .	*	*	*	*	257	16.2	199	12.5
College or university courses (non-extension) . .	252	15.9	411	25.9	106	6.7	206	13.0
Bachelor degree	440	27.7	466	29.4	79	5.0	407	25.6
Master degree	87	5.5	235	14.8	107	6.7	356	22.4
Doctor degree	11	.7	13	.8	20	1.3	107	6.7
No, I am not currently enrolled	*	*	*	*	854	53.8	*	*
No further objectives in formal education	*	*	*	*	*	*	228	14.4
No answer	8	.5	34	2.1	24	1.5	18	1.1
Totals	1,587	100.0	1,587	99.9	1,587	100.0	1,587	99.8

* Data uncollected

TABLE 3-5

MEDIAN AGES OF EDUCATIONALLY MOBILE AND STABLE TEACHERS

Level of Education	Mobile			Stable		
	Number (N=708)	Prior Median Age	Current Median Age	Number (N=820)	Prior Median Age	Current Median Age
High school diploma	252	38.4	49.7	73	40.8	50.8
Junior college courses	110	37.0	46.2	132	39.9	44.8
Junior college degree	65	34.2	41.8	59	36.9	41.3
Registered nurse	33	36.9	48.3	37	40.8	45.0
College or university courses (non-extension) . . .	60	35.3	47.7	188	37.2	46.0
Bachelor degree	105	29.5	44.5	330	34.2	42.9
Master degree	83	33.2	41.6	1	*	*

* No data

(i.e., associate, bachelor and master) at the start of teaching. In general, these data indicate that there is a tendency for the mobile group to start teaching younger, stay with teaching longer and pursue degree programs at a younger age.

Work experience was found to correlate negatively with educational level in Table 3-6 for the mobile group. Those who do not advance their educational level have more work experience at every level than those who do. The retardant effect of work experience upon educational mobility is not appraised in this study.

The mobile group is also characterized by more memberships in national, state and local organizations; by more additional school responsibilities in supervision, administration and other jobs; by over-representation in large towns and cities and by higher percentages of married teachers. Although more of them teach in junior colleges a larger percentage of high school teachers are educationally mobile.

Summary

In summary, the educational profile of the trade and technical teacher has been changing significantly. Periodic studies of "recent entrants" indicates a strong trend toward a higher level of education. Furthermore, considerable up-grading takes place while teaching. These two factors -- new teachers with more education and up-grading while teaching -- have changed significantly the educational sophistication of the total population of trade and technical teachers.

TABLE 3-6

WORK EXPERIENCE OF EDUCATIONALLY MOBILE AND STABLE GROUPS

Level of Education	Mobile		Stable	
	Number (N=708)	Median Years of Work Experience	Number (N=820)	Median Years of Work Experience
High school diploma	252	17.0	73	20.8
Junior college courses	110	15.4	132	15.7
Junior college degree	65	12.8	59	14.5
Registered nurse	33	12.9	37	15.0
College or university courses (non-extension)	60	13.1	188	15.6
Bachelor degree	105	8.4	330	11.3
Master degree	83	11.6	1	*

* No data

The profile is destined to change even more. However, these characteristics apply in much smaller degree to teachers in correctional institutions.

The educationally mobile enter the teaching force younger and with less work experience and more education. Among other factors they tend to be older than their educationally stable counterparts, they take on more school-related responsibilities and they join more organizations.

CHAPTER IV

ORGANIZATIONAL AFFILIATIONS OF TRADE AND TECHNICAL TEACHERS

CHAPTER IV

ORGANIZATIONAL AFFILIATIONS OF TRADE AND TECHNICAL TEACHERS

Trade and technical teachers are part of an organizational society. They are born in organizations, educated by organizations and spend most of their lives working for organizations. They often take great pride in their organizational affiliations. Many join organizations for communal reasons, where emphasis is placed upon the personalities and values inherent in the organizations themselves. Most service clubs, recreational organizations and cultural groups serve this purpose. Sometimes the organizations are instrumental in nature. These organizations are not ends in themselves but exist for the pursuit of particular purposes. The AIAA and the AVA are examples of this type of organization. However, many organizations fulfill both instrumental and communal purposes. A visit to a meeting of the CIEA would confirm the presence of both objectives.

The importance that teachers attribute to membership in professional organizations is indicated in one section of the SPQ (reported in more detail in subsequent chapters). Teachers were asked in the SPQ to specify the activities that would be most helpful in "seeking to improve professional status." Table 4-1 indicates that making professional contacts and supporting professional organizations rank first and second respectively in the minds of teachers when considering the enhancement of their professional status. A strong

TABLE 4-1

ACTIVITIES CONSIDERED HELPFUL IN IMPROVING PROFESSIONAL STATUS

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Making professional contacts	4.18	.98	6	4	23	64	81	7
Supporting professional organizations	3.71	1.23	14	13	38	49	57	14
Meeting higher official standards (e.g., working for certificates, degrees, etc.)	3.69	1.24	12	19	44	41	63	6
Cooperating in research	3.64	1.24	14	16	46	44	57	8
Conducting independent research	3.43	1.31	21	19	48	42	48	7
Appearing before the community	3.02	1.28	30	25	63	32	28	7
Preparing material for publication	3.01	1.31	27	40	46	36	30	6
Securing a more attractive position	2.79	1.38	43	35	43	29	27	8

interrelationship between the first and second ranking scores exists because memberships in professional organizations provide the means for making professional contacts. Evidently meeting the higher official standards of working for degrees and certificates is not as important to professional status as knowing the right people.

Overall Memberships

Memberships per teacher. In this survey, less than two percent (30 teachers) reported no organizational affiliations. One hundred and twenty-five reported ten or more memberships. Table 4-2 indicates a median of 5.6 memberships per teacher. The teachers belong most frequently to local organizations and to national organizations least often. Almost all of them (94.8 percent - 1,502 teachers) have memberships at the local level; 81.7 percent (1,296 teachers) belong to state organizations; and 47.4 percent (752 teachers) report memberships in national organizations.

These findings indicate a higher level of membership for trade and technical teachers than did a previous study by Melvin L. Barlow and Gail E. Moore.[1] In 1955 they surveyed teachers who had entered teaching from 1945 to 1955, and found that 88.89 percent reported membership "in some organization, committee or group." (Membership in school committees is included in the Barlow and Moore survey, but are not included in the Profiles Study.) The earlier study reported that

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[1] Barlow and Moore, A Survey of Trade and Technical Teachers, (Los Angeles: Division of Vocational Education, University of California, 1953).

TABLE 4-2

MEMBERSHIPS IN NATIONAL, STATE AND LOCAL ORGANIZATIONS PER TEACHER

Number of Organizations	National*		State*		Local*		Overall*	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
0 . . .	835	52.6	291	18.3	86	5.4	30	1.9
1 . . .	516	32.6	611	38.5	211	13.3	69	4.3
2 . . .	169	10.6	430	27.1	336	21.2	137	8.6
3 . . .	46	2.9	201	12.7	289	18.2	204	12.9
4 . . .	15	.9	43	2.7	239	15.1	238	15.0
5 . . .	3	.2	8	.5	177	11.2	199	12.5
6 . . .	2	.1	2	.1	92	5.8	186	11.7
7 . . .	1	.1	1	.1	56	3.5	154	9.7
8 . . .	..	..	..	..	40	2.5	98	6.2
9 . . .	..	..	..	..	25	1.6	95	6.0
10 . . .	..	..	..	..	13	.8	53	3.3
11 . . .	..	..	..	..	12	.8	41	2.6
12 . . .	..	..	..	..	8	.5	29	1.8
13 . . .	..	..	..	..	..	..	17	1.0
14 . . .	..	..	..	..	1	.1	14	.9
15 . . .	..	..	..	..	1	.1	11	.7
16 . . .	..	..	..	..	1	.1	2	.1
17 . . .	..	..	..	..	..	..	3	.2
18 . . .	..	..	..	..	..	..	..	..
19 . . .	..	..	..	..	..	..	4	.3
20 and more	..	..	..	..	..	..	3	.3
Totals .	1,587	100.0	1,587	100.0	1,587	100.2	1,587	100.0

* The median number of organizations per teacher are:
National . . 1.0
State . . . 1.8
Local . . . 3.6
Overall . . 5.6

75.85 percent (471 teachers) were members of professional organizations; 47.66 percent (269 teachers) were members of community organizations; and 48.47 percent (301 teachers) were members of school committees.

National organizations. In the Profiles Study three organizations dominate the membership at the national level (see Table 4-3). The NEA heads the list with 21.6 percent (343 teachers); the AVA follows closely with 20.9 percent (332 teachers); and the AIAA ranks third with 6.3 percent (107 teachers). The high percentage of membership in the NEA indicates that vocational teachers affiliate with organizations with a general professional interest in education more frequently than with any other vocational or industrial organization at the national level. The higher percentage of memberships in the AVA over the AIAA reflects the parameters of the Profiles Study (which did not include industrial arts teachers unless they had a vocational credential). We suspect that holding fewer memberships in national organizations reflects the difficulty of providing for communal satisfactions along with instrumental values.

State organizations. The CTA heads the list of state organizations, with 48.1 percent (763 teachers). (See Table 4-4.) Other organizations with relatively large representation are the CIEA with 38.6 percent (612 teachers), the CJCFA with 27.7 percent (440 teachers) and the CVA with 11.7 percent (186 teachers). The CIEA, with more than three times as many members, appears to be more attractive to the vocational teacher than the CVA. The CJCFA serves only the junior college

TABLE 4-3

DISTRIBUTION OF MEMBERSHIP IN NATIONAL EDUCATIONAL ORGANIZATIONS

Type of Organization	Number of Teachers	Percentage
Adult Education Association of the USA . . .	22	1.4
American Industrial Arts Association	107	6.3
American Vocational Association	332	20.9
National Education Association	343	21.6
Other	234	14.7

TABLE 4-4

DISTRIBUTION OF MEMBERSHIP IN STATE EDUCATIONAL ORGANIZATIONS

Type of Organization	Number of Teachers	Percentage
California Council for Adult Education . . .	31	2.0
California Industrial Education Association .	612	38.6
California Junior College Faculty Association .	440	27.7
California Teachers Association	763	48.1
California Vocational Association	186	11.7
Other	240	15.1

faculty, but since a large number of junior college teachers are included in the survey, the CJCFA ranks high in memberships. In state organizations, as in national organizations, trade and technical teachers report more memberships in professional organizations with a general purpose (the CTA and the CJCFA) than in those with a vocational purpose.

Local organizations. At the local level, teachers most frequently join organizations that relate to their teaching profession. Table 4-5 indicates that 63.0 percent (1,000 teachers) claim membership in local professional educational organizations (e.g., faculty groups) and 41.3 percent (655 teachers) claim membership in trade and professional organizations. Some portion of the 15.7 percent (294 teachers) who belong to labor organizations also might belong because of the work-related aspects involved. Memberships in professional fraternities and sororities also are related to the teaching profession.

Other than the obviously strong influence of professional ties in the local affiliations, there is a wide range of organizational interests. Although trade and technical teachers support their profession first in their organizational affiliations, they also involve themselves in a broad spectrum of community relationships.

Variables in Organizational Memberships

"Joiners" and "non-joiners". The number of organizational memberships per teacher varies considerably. Table 4-2 indicates a reported range of memberships from 0 to more than 20, with a median

TABLE 4-5

NUMBER OF TEACHERS WITH ONE OR MORE MEMBERSHIPS PER TYPE OF LOCAL ORGANIZATION

Type of Local Organization	Number	Percentage
Professional educational	1000	63.0
Trade and professional	655	41.3
Educational and cultural	499	31.4
Religious	439	27.7
Recreational	370	23.3
Service	340	21.4
Youth and children's sponsor	293	18.5
Fraternities and sororities	289	18.2
Labor	249	15.7
Civic and political.	234	14.7
Military and veteran	194	12.2
Other	147	9.9

number of 5.6. This difference in the number of organizational memberships prompted a comparison of 30 teachers who reported no memberships with 125 teachers who reported more than ten. The "joiners" (ten or more organizations) belong to national organizations with a 22 to 40 percent greater frequency than the overall population, to state organizations with a 16 to 36 percent greater frequency and to local organizations with a ten to 37 percent greater frequency.

The most significant characteristics of the "joiners", when compared with the overall population, are: (1) they have more academic degrees (58.4 percent versus 45.0 percent), (2) they take on more additional school-related responsibilities (37.6 percent versus 28.1 percent), (3) they teach more frequently in junior colleges (76.0 percent versus 65.7 percent) and (4) they more often teach in large cities (64.8 percent versus 55.2 percent). They also tend to be older and to have more work experience.

The four most significant characteristics of the non-joiners when compared with the overall population reflect the institutional, religious, educational and community factors. A significantly higher percentage teach in correctional institutions (20.0 percent versus 10.5 percent) and are Catholic (33.3 percent versus 19.1 percent). A significantly lower percentage are Protestant (43.3 percent versus 65.0 percent), teach in large towns and cities (36.7 percent versus 55.2 percent), and have higher academic degrees (30.0 percent versus 45.0 percent). They also include higher percentages of younger people, are male more frequently than female, have more work experience and take on fewer school-related jobs.

The four factors which proved most significant in the comparison of the two extreme samples of the overall population are institution, education, community and religion. By extrapolation from the analysis of these two samples, we would expect the number of memberships per teacher to increase with junior college employment, academic degrees and location in large towns and cities. Memberships per teacher also would be expected to decrease with correctional employment, absence of academic degrees, location in small towns and Catholic religious affiliation.

Differences in organizational membership were noted in the total population, when some of the more significant factors about teachers were explored. These differences indicate that within the total population of trade and technical teachers there are subgroups which distinguish themselves in organizational diversity. It must be kept in mind that the differences in percentages reported below do not reflect the real significance.[2]

Institutional employment. Differences in the percentages and patterns of organizational membership according to type of institution were mentioned in Chapter I. Obvious differences are evident in continued analyses. For example, when comparing sub-group percentages with those for the overall study population, it is seen that correctional teachers have fewer memberships in national organizations (30.5 percent versus 47.4 percent) and fewer in state organizations (74.9 percent versus 81.7 percent). Although they join fewer organizations at the local level, they do give active support to labor organizations (23.4 percent versus 15.7 percent) and service groups (40.1 percent versus 21.4 percent).

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[2] For example, high school teachers have a 8.7 percent greater membership in AIAA than the overall population. This is a 138 percent greater level of membership than the overall membership for this organization. High school teachers also have a 8.7 percent greater membership in professional educational associations. However, this represents only a 13.8 percent greater membership for this type of organization.

While high school teachers do not differ as much as correctional teachers from the general study population, they give more support to national organizations (50.9 percent versus 47.4 percent) and state organizations (88.5 percent versus 81.7 percent). Most noteworthy among the differences in national organizations is membership in the AIAA (15.0 percent versus 6.3 percent). Outstanding differences among the state organizations are the CIEA (54.9 percent versus 38.6 percent), the CTA (59.3 percent versus 48.1 percent) and the CVA (8.5 percent versus 11.7 percent). Among the local organizations, the most significantly higher percentage is in educational and cultural organization affiliation (47.1 percent versus 31.4 percent). Although not as significantly, high school teachers also support the AVA and the NEA in greater proportions.

Junior college teachers vary least in their memberships from the overall population. (Since they represent 65.7 percent of the total population, their influence on the total population scores is great.) They report 51.3 percent versus 47.4 percent of the national memberships and 85.1 percent versus 81.7 percent of the state memberships.

In national organizations, they favor the NEA more highly (25.4 percent versus 21.6 percent) and at the state level they claim more memberships for the CTA (53.3 percent versus 48.1 percent). Among local organizations they favor professional educational groups (70.4 percent versus 63.0 percent) and trade and professional organizations (49.7 percent versus 41.3 percent).

Education prior to teaching. The level of education prior to teaching is also related to the number and kind of organizational memberships. Teachers with bachelor, master and doctoral degrees have higher percentages of membership than do those without academic degrees. They also support different organizations. For example, teachers with degrees favor the CTA (55.2 percent versus 48.1 percent) and local trade and professional organizations (47.6 percent versus 41.3 percent). However, they also are over-represented in the CJCFA among state organizations and in trade and professional, civic and political, educational and cultural, professional educational and religious groups at the local level.

Teachers with less than two years of college give greater support to the AVA (26.7 percent versus 20.9 percent), the CIEA (45.1 percent versus 38.6 percent), the CVA (15.0 percent versus 11.7 percent) and labor groups (24.8 percent versus 15.7 percent).

Religion. The religious factor, evident in the comparison of joiners with non-joiners, was also noted in an analysis of organizational membership in the overall population. Protestants have a consistently higher percentage of affiliation, although their percentages do not vary much from the overall percentages. (One of the reasons for this is that they dominate the overall population picture with a representation of 65.0 percent.) Catholics have slightly lower percentages of membership than the overall population in national and state organizations, and much lower percentages in local organizations. The lower percentage of Catholics in local organizations is most obvious in service groups (15.2 percent versus 21.4 percent), educational and cultural groups (25.7 percent versus 31.4 percent) and professional educational organizations (59.1 percent versus 63.0 percent).

Jewish teachers have a unique pattern of organizational membership which does not show up in the comparison of the joiners with the non-joiners. They have 9.6 percent fewer memberships than the overall population at the national level, 12.8 percent fewer memberships at the state level and a distinctive pattern of affiliation at the local level. At the national level this is indicated by 11.5 percent fewer memberships in the NEA (or one-half the percentage of membership in the overall population) and 1.9 percent fewer memberships in the AIAA (or about one-third fewer memberships than the overall population). At the state level this is reflected in fewer memberships than the sample population in the CTA (19.2 percent fewer), CIEA (7.5 percent), the CJCFA (5.5 percent) and the CVA (5.0 percent). However, at the local level the Jews have a higher percentage of total membership. Furthermore, they vary markedly from the overall population. For example, Jews have fewer memberships in professional educational groups (16.3 percent fewer), service groups (12.5 percent) and military and veterans' organizations (7.8 percent). On the other hand, they provide larger percentages of support for educational and cultural groups (13.0 percent more), religious organizations (7.9 percent), trade and professional groups (7.6 percent), the leadership of youth groups (5.9 percent) and civic and political groups (2.9 percent).

Age. Older teachers tend to be over-represented and younger teachers tend to be under-represented when their percentages of support are compared with support for organizations in the overall population. The only place where younger teachers (below 44 years) indicate a higher percentage of membership is in the leadership and sponsorship of youth organizations (24.7 percent versus 18.5 percent).

Older teachers, when compared to the overall population, also indicate preferences in organizations. The AVA is clearly favored at the national level with teachers 50 years and older (27.0 percent versus 20.9 percent), the CJCFA with teachers 45 years and older (32.0 percent versus 27.7 percent) and service organizations at the local level with teachers 50 years and older (30.1 percent versus 21.4 percent). Other organizations favored with smaller percentages by older teachers are the NEA, the CVA, the CIEA and local, civic and political groups.

Community. Teachers in communities with over 50,000 people (large towns and cities) are over-represented in the number of organizational memberships and also reflect a distinctive pattern of support when their percentages are compared with those for the overall population. At the national level, teachers employed in large cities give greater support to the AVA (24.9 percent versus 20.9 percent), the NEA (24.4 percent versus 21.6 percent) and to the AIAA in lesser degree. At the state level they give greater support to the CJCFA (36.0 percent versus 27.7 percent), the CVA (15.9 percent versus 11.7 percent) and to a small degree, the CIEA. At the local level they favor profession educational groups (70.8 percent versus 63.0 percent), civic and political groups (19.1 percent versus 14.7 percent) and to a small degree recreational, religious, youth and educational and cultural groups.

Small towns have the smallest percentages of membership at the national level, with 42.0 percent versus 47.7 percent in the overall population.

Suburbs show less striking differences in score and tend to be more like the cities than the small towns.

Income. The salaries of junior college and high school teachers also are a discriminating factor in the organizational affiliations of these two groups of teachers.[3] Although there are numerous exceptions, the percentages of membership generally increase as salaries increase. More specifically, the teachers in the $11,000 - $14,000 salary range usually have higher percentages of membership than those in other salary ranges. Teachers earning less than $6,000 usually are much lower in the percentages of membership.

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[3] Salaries for correctional and other groups of teachers were not included in this analysis because of non-comparable time periods of teaching contracts.

Additional credentials. It should also be kept in mind from the discussion in Chapter II that teachers with additional credentials in supervision and administration, industrial arts and general education have a higher percentage of membership in organizations than the overall population. They also belong to more organizations per teacher but have different patterns of organizational affiliation. For example, the supervisory and administrative group support the AVA and the CVA with higher percentages than do the other credential groups; the industrial arts group supports the AIAA and the CTA with higher percentages; and the general education group supports the NEA, the CJCFA and the CTA with higher percentages. At the local level, the industrial arts and the general education groups have higher percentages of membership in local chapters of fraternities and sororities and much lower percentages of membership in local labor groups.

Summary

Trade and technical teachers have "staked their claim" in the world of organizations with a median of 5.6 memberships per teacher. Ninety-eight percent belong to one or more organizations. Their memberships in organizations are predominantly related to the teaching profession, with a higher percentage of membership in general teacher organizations than in vocational teacher organizations. At the local level, teachers also belong to a broad spectrum of community organizations.

When "joiners" and "non-joiners" are compared, the institutional, educational, religious and community factors are most discriminating.

A higher percentage of joiners have academic degrees, assume more additional school-related responsibilities, teach more frequently in junior colleges and work in large towns and cities. Non-joiners include a higher percentage of correctional teachers and teachers with Catholic religious affiliation. They have significantly lower percentages of teachers with Protestant religious affiliation, with employment in large towns and cities and with academic degrees.

The same four variables (institutional, educational, religious and community) are discriminating factors in the study of organizational membership in the overall population, with the addition of age, salary and additional credentials. Each of these additional factors is positively associated with increases in organizational membership.

CHAPTER V

ENVIRONMENT OF TRADE AND TECHNICAL TEACHERS

CHAPTER V

ENVIRONMENT OF TRADE AND TECHNICAL TEACHERS

Documentation of changes in contemporary society is available on every hand and vocational educators have played an increasingly significant role in the emerging social order of the 1960's. The impact of federal legislation on vocational education has been one of the catalysts during this decade. The growing numbers of vocational educators and the enlarged scope of vocational programs exert their impact upon the school and community. Because of increased activity, the distinctive needs and problems of vocational educators are now more apparent.

With this in mind, the Profiles Study provided for discussions of the changing environment in community and school for trade and technical teachers. The interviewers asked for suggestions from teachers based on their perceptions. The items (questions) in the PDQ originated from teachers in group interviews. Some of the related items in the SPQ supplement these environmental concerns. The items are not meant to be exhaustive. However, the items in the PDQ reflect the uppermost concerns of the teachers. The related items in the SPQ are exploratory in purpose.

School Environment

The school environment dominates the concerns of the teacher because these day-to-day events and relationships are pervasive and close at hand. The concerns that are uppermost in the mind of the trade and technical teacher relate to administrators, other teachers, counselors and students.

Administrators. Trade and technical teachers place general responsibility for the role of vocational education in the hands of the administrators. Undoubtedly the involvement and influence of administrators upon the total program of trade and technical education is the reason why a suggestion about administrative philosophy ranks higher than any other prescriptive score in the PDQ. Judging from the mean scores in Table 5-1, trade and technical teachers want more than anything else to "enjoy a philosophy of administration which supports vocational education." The primacy of this basic support is reflected in the words of one teacher, who asserted, "What we should really do first is to get the administrators. . . to recognize that vocational education is part of the program."

The mean descriptive score of 3.71 indicates that a large percentage of teachers feel that they have this support. The nature of administrative functions is such that it is doubtful if there ever could be a convergence of the descriptive and the prescriptive scores. Yet, the feeling that the administration is supporting vocational education should not go unrecognized.

The teachers' suggestions about what should be done to build a better relationship between vocational education and administration are incorporated in one item of the PDQ. (See Table 5-2.) "Bring administrators into the activities of vocational education," suggest the teachers. It is the feeling of the teachers that, through cooptation, administrators will identify with vocational education and develop more positive attitudes toward it.

Teachers. Enjoying a "status in which vocational teachers are equal to academic teachers" ranks second in importance (See Table 5-1.) Trade and technical teachers frequently talk about their separation from the academic teachers. Nevertheless, there is a general feeling that progress is being made in breaking down this wall of separation. One teacher, reflecting upon his years of service, spoke of the difficult period when vocational education was physically separated from academic programs in a separate building. In talking about this prior period he said, ". . . then we were about as far from the academics (academic teachers) as we could get. There was as big a wall between us there as ever could have been."

Vocational teachers relate the problem of relative status to the academic teachers' lack of knowledge about vocational teachers. This is illustrated in one group interview by the teacher who remarked, "I believe that if most of the teachers in the other areas and other fields knew exactly what the vocational teacher had to do in order to become a vocational teacher there would be a greater appreciation of his contributions." But this statement was countered by the comment, "There has always been this idea that it is the academic people who need to know what we are doing, but this is a kind of two-way street. We have to know what they are doing and what some of their problems are." "I think we ought to revamp our attitude," stated a third teacher.

It appears that vocational teachers are ready to build better relationships with their academic colleagues through activities which

TABLE 5-1

RECOMMENDATIONS RELATED TO CHANGING ENVIRONMENT**

Rank	Question	Overall Means		
		Form A	Form B	Difference (A-B)
1	Offer industrial scholarships for vocational students	4.24	2.69	1.55
2	Receive time off to develop new courses	3.11	1.58	1.53
3	Offer parents information about the advantages of vocational education	4.40	2.91	1.49
4	Articulate program for coordination of courses between junior high, high school and college	3.95	2.50	1.45
5	Encourage the interest of technical societies in schools	4.21	2.92	1.29
6	Devote time to a program of vocational teacher recruitment	3.71	2.45	1.27
7	Enjoy a status in which vocational teachers are equal to academic teachers	4.71	3.44	1.27
8	Offer programs of vocational orientation for academic and vocational students	4.18	2.93	1.25
9	Do research in vocational education	3.92	2.71	1.21
10	Offer work-study programs in vocational curricula	3.85	2.78	1.08
11	Disseminate information to the public about needs of industry for our graduates	4.20	3.14	1.06
12	Enjoy a philosophy of administration which supports vocational education	4.73	3.71	1.02

TABLE 5-1 (continued)

High School Means			Junior College Mean			Correctional Means		
Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)
4.36	2.70	1.67	4.25	2.88	1.37	4.00	1.58	2.42
3.06	1.64	1.42	3.09	1.52	1.57	3.29	1.83	1.46
4.30	3.30	1.00	4.37	2.98	1.40	4.68	1.91	2.77
3.97	2.73	1.24	3.95	2.53	1.43	3.86	2.00	1.86
4.15	2.76	1.39	4.16	3.03	1.13	4.63	2.50	2.13
3.55	2.33	1.21	3.73	2.55	1.18	3.86	2.00	1.86
4.79	3.21	1.58	4.69	3.53	1.17	4.75	3.25	1.50
4.16	3.12	1.04	4.12	2.86	1.25	4.58	3.04	1.54
3.73	3.03	.70	3.92	2.65	1.27	4.17	2.58	1.58
3.81	2.48	1.33	3.84	2.81	1.03	3.96	2.96	1.00
4.00	3.18	.82	4.19	3.18	1.01	4.54	2.83	1.71
4.84	3.30	1.54	4.68	3.83	.86	4.83	3.54	1.29

TABLE 5-1 (continued)

Rank	Question	Overall Means		
		Form A	Form B	Difference (A-B)
13	Maintain vocational teacher salaries in line with trade and technical salaries in industry	4.32	3.31	1.02
14	Insist that vocational classes have no more students than space provides	4.65	3.71	.94
15	Insist that all students admitted to vocational courses have the ability to do the work	4.16	3.52	.64
16	Maintain standards of vocational competence as criteria for graduation	4.71	4.10	.61
17	Offer students information about the disadvantages of employment without sufficient training	4.53	3.95	.58
18	Emphasize the distinctions between entry level (occupational), trade (non-professional) and technical (semi-professional) courses	3.67	3.12	.54
19	Utilize advisory committees from trade and technical fields	4.45	3.94	.52
20	Encourage industry to take over training for specific occupations	2.89	2.43	.47
21	Devote time to re-evaluate goals of vocational education	3.81	3.40	.41
22	Replace equipment	3.71	3.32	.39
23	Emphasize values and attitudes toward work in vocational classes	4.62	4.28	.34
24	Devote time to up-dating course content	4.32	4.03	.28

TABLE 5-1 (continued)

High School Means			Junior College Means			Correctional Means		
Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)
4.66	3.00	1.66	4.25	3.38	.87	4.30	3.25	1.05
4.82	4.12	.68	4.61	3.67	.94	4.67	3.38	1.29
4.13	3.58	.55*	4.20	3.55	.66	3.91	3.26	.62*
4.61	3.79	.82	4.73	4.24	.48	4.71	3.63	1.08
4.39	4.03	.36*	4.51	3.94	.58	4.83	3.88	.96
3.64	3.24	.39*	3.68	3.21	.48	3.61	2.46	1.15
4.15	3.12	1.03	4.48	4.12	.36	4.71	3.96	.75
2.94	2.55	.39*	2.86	2.41	.45	3.04	2.35	.70*
3.66	3.48	.17*	3.84	3.43	.41	3.88	3.08	.79
3.48	2.85	.64	3.77	3.47	.30	3.67	3.08	.58
4.70	4.39	.30	4.57	4.29	.29	4.83	4.08	.75
4.06	3.88	.18*	4.42	4.14	.28	4.04	3.63	.32*

TABLE 5-1 (continued)

Rank	Question	Overall Means		
		Form A	Form B	Difference (A-B)
25	Tailor vocational courses to the specific demands of industry	4.05	3.90	.15*
26	Standardize vocational curriculum inspite of the many demands for specialization in industry	2.78	2.91	-.14*
27	Place gainful employment above all other vocational goals	3.61	3.58	.02*

* These differences in means are the only ones with a significance level greater than .2% for overall, 5% for high school and correctional and 2% for junior college. The significance levels of these differences in the order of their appearance are:

Overall	10.7%, 24.6% and 82.5%
High School	8.7%, 29.9%, 15.6%, 17.4%, 39.0%, 33.2%, 31.7%, 84.6% and 100%
Junior College	84.9%, 30.3% and 87.2%
Correctional	11.2%, 10.1%, 13.4%, 58.2% and 30.8%

TABLE 5-1 (continued)

High School Means			Junior College Means			Correctional Means		
Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)
4.00	3.73	.27*	4.01	3.99	.02*	4.33	3.54	.79
2.90	2.97	-.07*	2.76	2.90	-.14*	2.71	3.54	.17*
3.70	3.70	.00*	3.55	3.56	-.02*	3.83	2.54	.29*

** The differences in means may not always be equal to the mean of form B subtracted from the mean of form A in this table since all figures have been rounded.

NOTE: **The significance level ranges from -1 to +1 (or -100% to +100%). A small significance level indicates a rejection of the Null Hypothesis. The Null Hypothesis states that there is no difference between the description and the prescription of the conditions as stated in the questions.**

TABLE 5-2

RECOMMENDATIONS RELATED
TO COLLEAGUES**

Rank	Question	Overall Means		
		Form A	Form B	Difference (A-B)
1	Offer programs of vocational orientation for counselors	4.28	2.64	1.64
2	Join with academic teachers for team teaching	3.25	1.71	1.54
3	Initiate activities which will build better communication between vocational and academic teachers	4.38	3.05	1.32
4	Utilize trade and technical teachers as vocational counselors	4.20	2.92	1.28
5	Join with academic teachers to develop courses together	3.63	2.34	1.28
6	Encourage teachers of academic subjects to emphasize vocational applications	4.05	2.89	1.17
7	Utilize academic teachers as resource persons in class instruction	3.26	2.20	1.06
8	Encourage the combination of vocational and academic teachers in administrative committees	4.48	3.47	1.01
9	Join with vocational teachers for team teaching	3.73	2.73	1.00
10	Bring administrators into the activities of vocational education	4.30	3.35	.95
11	Utilize vocational competence as a basis for professional advancement	4.08	3.16	.92
12	Equate laboratory teaching with lecture teaching when assessing class load	4.16	3.26	.90

TABLE 5-2 (continued)

High School Means			Junior College Means			Correctional Means		
Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)
4.27	2.48	1.79	4.27	2.74	1.53	4.38	2.29	2.08
3.15	1.61	1.55	3.23	1.71	1.52	3.52	1.88	1.65
4.30	3.03	1.27	4.35	3.04	1.31	4.67	3.17	1.50
4.42	2.09	2.39	4.17	3.15	1.01	4.13	2.61	1.52
3.73	2.21	1.52	3.59	2.43	1.16	3.74	2.04	1.70
4.21	3.21	1.00	3.95	2.82	1.13	4.57	2.96	1.61
3.03	2.12	.81	3.28	2.21	1.08	3.43	2.25	1.18
4.36	2.82	1.55	4.49	3.70	.79	4.57	2.96	1.61
3.55	2.42	1.12	3.79	2.89	.90	3.61	2.21	1.40
4.30	2.91	1.39	4.29	3.54	.75	4.35	2.79	1.56
4.03	2.88	1.16	4.07	3.22	.85	4.21	3.17	1.03
3.84	3.66	.19*	4.25	3.20	1.06	4.05	3.13	.92

TABLE 5-2 (continued)

Rank	Question	Overall Means Form A	Overall Means Form B	Overall Means Difference (A-B)
13	Offer academic subjects taught by vocational teachers to emphasize vocational applications	3.48	2.59	.89
14	Emphasize the importance of vocational education for academic students	3.95	3.07	.88
15	Utilize vocational teachers as resource persons in class instruction	3.67	2.89	.78
16	Join with vocational teachers to develop courses together	4.07	3.40	.67
17	Provide social activities which combine both vocational and academic teachers	3.99	3.44	.55
18	Emphasize the importance of general education for vocational students	4.53	4.17	.36
19	Take courses to meet academic requirements of professional advancement	4.00	4.10	-.10*

* These differences in means are the only ones with a significance level greater than .2 per cent. (The high school differences are the only ones with a significance level greater than 1 per cent.) The significance levels of these differences in the order of their appearance are:

Overall	23.8%
High School	52.9%, 1.5% and 1.6%
Junior College	41.2%
Correctional	7.8%

TABLE 5-2 (continued)

High School Means			Junior College Means			Correctional Means		
Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)	Form A	Form B	Difference (A-B)
3.52	2.45	1.06	3.38	2.59	.79	4.04	2.79	1.25
4.12	3.18	.94	3.89	3.01	.88	4.09	3.29	.80
3.55	2.88	.67	3.69	2.91	.78	3.74	2.79	.95
4.03	3.27	.76	4.11	3.54	.57	3.91	2.75	1.16
3.91	3.24	.67	4.02	3.63	.39	3.91	2.57	1.35
4.58	4.09	.48*	4.48	4.20	.28	4.79	4.13	.67
3.70	4.18	-.48*	4.01	4.09	-.08*	4.35	4.00	.35*

** Refer to footnote (**), Table 5-1.

enhance communication, develop social relationships and unite teachers in administrative committees. The most popular suggestion is "to encourage the combination of vocational and academic teachers in administrative committees." (See Table 5-2.) The difference in prescriptive and descriptive scores indicates that teachers think more could be done with this suggestion. They also feel more could be done to "initiate activities which will build better communication between vocational and academic teachers." The discrepancy between prescriptive and descriptive scores is even larger on this item. The suggestion to "provide social activities which combine both vocational and academic teachers" is not as strongly accepted. Nevertheless, junior college teachers rank it above the 4.00 level of mean scores.

Two other suggestions to improve the relationship between vocational and academic teachers are strongly supported. The suggestion "to equate laboratory teaching with lecture teaching when assessing class load" is offered by teachers who would like to erase this distinction in teaching methodology as an index of difference. This also represents an unfairness in class load assignments. They also feel that academic teachers could do much more to "emphasize vocational applications" of their subject areas. This is indicated by the large discrepancies between prescriptive and descriptive mean scores.

On the other hand, vocational teachers are not keen about joining with academic teachers to "develop courses" or to do "team teaching." Neither do they rate very high the idea of utilizing academic teachers as "resource persons in class instruction." Nor do they think highly of offering "academic subjects taught by vocational teachers to emphasize vocational applications." It would appear that vocational teachers are not as ready to "mix the breeds" in the classroom as they are in other areas of relationship. They evidently prefer doing their particular job in the classroom and letting the academic teachers do theirs.

However, it should be kept in mind that vocational teachers do not rate very highly the idea of doing team teaching with anyone. This practice is still relatively rare. Neither are they highly responsive to the suggestion of using other vocational teachers as resource persons. The suggestion that does receive favorable response is the idea of developing courses with other vocational teachers. Although there is more support for the suggestions of working with other vocational teachers in the classroom, vocational teachers do not yet feel highly comfortable with these suggestions.

The problem of comparable salary schedule is discussed in Chapter VI in relation to in-service training, but this question also is related to one suggestion from trade and technical teachers to "maintain vocational teacher salaries in line with trade and technical salaries in industry." (See Table 5-1.) It is quite obvious from the spread of prescriptive and descriptive scores that the teachers believe they are paid less than their counterparts in industry. The teachers feel that this factor in the community environment should serve as a rationale for increasing their salaries and simultaneously for raising their status in relation to academic teachers.

Many trade and technical teachers also believe that different criteria should be used to advance vocational teachers while teaching. The teachers suggest that "vocational competence should be used as a basis for professional advancement." (See Table 5-2.) The moderately wide spread in prescriptive and descriptive scores would indicate that, in the judgment of the teachers, vocational competence in their respective subject areas is not given adequate consideration. This undoubtedly refers to the years of experience vocational teachers must invest in acquiring vocational competence prior to teaching, and to the need for updating this competence while teaching.

Another highly rated item in Table 5-1 reflects the pressure of the changing environment upon competent vocational instruction. Although academic teachers must also "devote time to updating course content," vocational teachers often feel that they have a special problem with this responsibility because of the rapidly changing world or work.

Counselors. Vocational teachers often feel that guidance personnel does not have the training or the background to do vocational counseling. They often point to the training of school counselors and the requirements of the pupil personnel credential to illustrate their point of view. Vocational teachers usually feel that school counselors are able to help students with their personal problems, class schedules and college entrance, but are ill-equipped to prepare students for those occupations in the world of work that do not require four or more years of college. Sometimes vocational teachers charge that school counselors are biased against vocational education.

The proposed solutions to this problem usually fall in two categories. One type of solution calls for "reorienting the academically-oriented counselors. In other words, communicate with them and let them know what is necessary." The other type of solution calls for providing vocational guidance by augmenting the guidance services. The most frequently mentioned method is to train vocational teachers to do vocational counseling. Sections II and IV of the PDQ measured the attitudes of trade and technical teachers toward these two approaches. The teachers were asked to assess the following two suggestions in Section II (Table 5-2):

> Offer programs of vocational orientation for counselors.
>
> Utilize trade and technical teachers as vocational counselors.

Both items rank high and show large differences between the prescriptive and descriptive means. In other words, the high prescriptive scores indicate that the teachers are greatly concerned about the vocational counseling problem and they feel that much needs to be done.

A further indication of the importance of this problem is discussed in the in-service section of Chapter VI. In the discussion of in-service training (Table 6-4), trade and technical teachers made the following suggestions:

> Include a program of in-service training for counselors.
>
> Train teachers to do vocational counseling.

Both of these items rank above the 4.00 level. These scores further emphasize the importance of the guidance problem to trade and technical teachers.

It is of interest that the reorientation and training of counselors is rated above the utilization and training of teachers as counselors. This indicates a preference for having counselors do the counseling job.

Students. Vocational teachers also have a number of suggestions about working with students. Among the suggestions rated high by the teachers is to "insist that vocational students admitted to vocational courses have the ability to do the work." (See Table 5-1.) Although many of the teachers do not feel that their courses are a "dumping ground" (the differences in descriptive and prescriptive means are not large) some of the teachers do complain about this problem. One teacher explained, "Another really important problem is deficiency in math skills . . . . There is a siphoning process going on in the high schools, and by the time they get aroung to my area, I've got these (deficient) students . . . for want of a better place to go, or maybe an easier place to go. They are almost all deficient in math."

The necessity for vocational students' having a good academic background, illustrated in the comment to the teacher in the above quotation, is highly accepted and generally encouraged by vocational teachers. The highest prescriptive mean score in Table 5-2 was given to the suggestion of "emphasizing the importance of general education for vocational students." The high descriptive score indicates that this is a common emphasis.

One of the reasons vocational teachers want capable students with adequate academic backgrounds is because they want good students and competent graduates. The suggestion to "maintain standards of vocational competence as criteria for graduation" was given a very high prescriptive score by the teachers. (See Table 5-1.) Although this suggestion also received a high descriptive score, in some quarters teachers of vocational programs feel that their standards may be threatened by the introduction of marginal students into vocational classes.

The problem of the "hire out" (as distinct from the "drop out") is also of concern to teachers. "Industry has a great need for our students," commented one teacher, "and is crying out for students immediately. Our greatest problem is trying to keep them until they get their degrees. Industry takes them as soon as they finish the course." The suggestion of teachers to meet the "hire out" problem is to "offer students information about the disadvantages of employment without sufficient training." The much lower descriptive score for this item indicates that the teachers feel that much more could be done with this suggestion.

Space is a problem in many areas where vocational programs are expanding. "I've been truly angry for the first time in twenty years," complained a San Diego teacher when he was forced to share his shop with another class. "I have plumbing apprentices taking a third of my shop. . . I got them out about a year ago, and there will be another class starting Friday. . . . We will have almost 60 people in 4,800 square feet." To help meet this problem, the teachers gave a high score to the suggestion that they should "insist that vocational classes have no more students than space provides. "

Teachers feel that industry could play a more active role in vocational education by offering scholarships to students in trade and technical training. Mindful that industry provides scholarships to train scientists and others in advanced degree programs and that public vocational schools are rendering a service to industry, they suggest that "industrial scholarships be offered for vocational students." The difference in prescriptive and descriptive mean scores is the highest in Table 5-1. Obviously the teachers feel that industry should be doing much more.

The lack of acceptance of the "proper" values and "correct" attitudes toward work is seen as a basic problem which applies to both vocational and academic students. Such attitudes and values are necessary to place training for the world of work in the proper light. For this reason, the teachers rate highly the suggestion to "emphasize values and attitudes toward work in vocational classes."

Another basic student problem is ignorance about the role and importance of vocational education. For this reason, the teachers want to "offer programs of vocational orientation for academic and vocational students" and "emphasize the importance of vocational education for academic students." (See Table 5-2.) Trade and technical teachers frequently lament the lack of orientation for vocational education among the whole student body.

Community Environment

Discussion topics. The school arena dominates the environmental concerns of the trade and technical teacher but it does not totally displace the concerns of the teacher for the larger community. The objective of training students for gainful employment extends the teacher's concerns to the larger world of work. The frequency with which teachers discuss the topics in Table 5-3 are measures of these concerns.

However, an obvious priority is revealed in the wide range of mean scores on these discussion topics. The clustering of scores divides the discussion topics into five distinct levels, as ordered in Table 5-4.

Assuming that frequency of discussion is a reflection of the concerns of the teachers, then the teachers are most concerned with those matters which appear to have an immediate and direct relationship to their personal teaching situations. The teachers discuss much more frequently how changing technology, job markets, employer policies and the economic situation affect their teaching situation than they do how the international situation is influencing the local vocational scene. Legislation, cultural values, labor policies and geography are also among their less immediate concerns. The more frequent discussion of employer policies than of labor policies suggests less identification with organized labor, as indicated elsewhere in this study.

Judging from the frequency distribution of the discussion topics in this questionnaire we might hypothesize that the teachers are concerned with the following groups of people in this order:

TABLE 5-3

FREQUENCY OF ENVIRONMENTAL DISCUSSION TOPICS

Item	Mean	Standard Deviation	Frequency			No Answer
			No Discussion	Occasionally	Frequently	
Technology - How changes in methods, materials and practices affect vocational school offerings, enrollments, budgets, facilities, equipment, teacher qualifications, etc.	2.72	.50	4	44	137	..
Job Markets - How employment opportunities affect vocational school offerings, enrollments, budgets, facilities, equipment, teacher supply, etc.	2.70	.49	3	50	132	..
Employer Policies - How the policies and attitudes of employers affect decisions with regard to the hireability of graduates of vocational institutions and the willingness of employers to cooperate with vocational educators.	2.58	.56	6	65	113	1

TABLE 5-3 (continued)

Item	Mean	Standard Deviation	Frequency			No Answer
			No Discussion	Occasionally	Frequently	
Economics - How economic conditions (prosperity or poverty, comparative wage levels, employment/unemployment ratios, growth rate, productivity, etc.) affect the demand for vocational education, teacher supply, financing, new facilities, construction, equipment acquisition, etc.	2.57	.58	8	63	114	..
Population - How the student population, both vocational and non-vocational, affects the nature and quality of vocational education offered.	2.55	.56	6	70	107	2
Science - How changes in the recent scientific revolution (since 1945), which has emphasized atomic energy, automation, computers and chemical materials, produce new and changing fields of knowledge in vocational education.	2.54	.63	14	58	113	..

TABLE 5-3 (continued)

Item	Mean	Standard Deviation	Frequency No Discussion	Frequency Occasionally	Frequency Frequently	No Answer
Legislation - How legislation at all governmental levels affects all aspects of both public and private vocational education.	2.37	.64	16	84	85	..
Cultural Values - How the acquired values, prejudices, ideals, attitudes, stereotypes and "image" perceptions of the population affect vocational education.	2.36	.66	19	81	85	..
Organized Labor Policies - How the policies and attitudes of organized labor affect decisions with respect to apprenticeship programs and cooperation with vocational educators.	1.91	.77	63	72	47	3
Geography - How climate, topography and natural resources, in interaction with population and economic	1.83	.73	66	85	34	..

TABLE 5-3 (continued)

Item		Mean	Standard Deviation	Frequency			No Answer
				No Discussion	Occasionally	Frequently	
Geography (continued)	- conditions, affect the nature and distribution of vocational education in California.						
International Interaction	- How the thrust of totalitarianism abroad affects the pressures upon vocational education to provide the base of well-being at home.	1.68	.73	88	67	29	1

TABLE 5-4

FREQUENCY OF DISCUSSION TOPICS[*]

Topic	Mean Frequency
Level 1	
Technology	2.72
Job Markets	2.70
Level 2	
Employer Policies	2.58
Economics	2.57
Population	2.55
Science	2.54
Level 3	
Legislation	2.37
Cultural Values	2.36
Level 4	
Organized Labor Policies	1.91
Geography	1.83
Level 5	
International Interaction	1.68

[*] Frequency range:
1 = No discussion
2 = Occasionally
3 = Frequently

1. Educators
2. Students
3. Employers
4. Business Leaders
5. Scientists
6. Legislators
7. Public
8. Labor Leaders
9. World Leaders

Liaison with industry. Trade and technical teachers feel a close relationship with industry and there is every indication that they desire an even closer relationship. This is shown by the types of statements which frequently come from teachers. "I'm afraid we are not meeting the challenge that industry imparts," stated one teacher. "I don't think we are offering the type of training that industry requires," asserted another. Still another teacher commented, "We need to ask industry to tell us more about what they want us to teach to their potential employees."

The points of view in these statements also are typified in two suggestions from the PDQ shown in Table 5-1. The suggestions from teachers to "utilize advisory committees from trade and technical fields" and to "tailor vocational courses to the specific demands of industry" have scores above the 4.00 level. The discrepancy between prescriptive and descriptive scores calls for further use of advisory committees. Another indication of the favorable interest of teachers in meeting the needs of industry is indicated by the low scores given the suggestions to "standardize vocational curriculum in spite of the many demands for specialization in industry" and to "encourage industry to take over training for specific occupations." Much higher scores for these suggestions would have resulted if teachers were indifferent to the needs of industry.

A readiness to build an even stronger liaison with industry is based upon mutual dependencies. On the one hand, the teachers must keep up to date with industry in order to keep their instruction current, and on the other hand, industry has a need for trained workers. The desire of teachers to keep up to date is reflected in two highly rated suggestions in Table 6-4 to "maintain exposure to the latest trade and technical developments in subject area fields" and to "encourage industry to provide in-service training for vocational teachers."

But the responsibilities of industry go beyond providing in-service training for teachers. Teachers feel that industrial responsibility should be broadened to "provide scholarships for vocational teacher training" and for "vocational students." (See Tables 6-1 and 5-1.)

Uninformed public. The problem of the uninformed public is reflected in many comments of trade and technical teachers. The following statement is typical:

> I think we should re-educate parents. The parents think that all their kids are college material, and they don't want him to be a barber or a brick mason like daddy was. They want him to have an "education." I think that they are often pushing their kids in the wrong direction.

Another teacher asserted, "The public is not well enough informed to know that there is a place other than in engineering. . . for a student that can't make the engineering grade."

Two suggestions in the PDQ demonstrate the strong feelings that teachers have about the lack of public information about vocational education. Their particular concern is that parents of students "get the word." The suggestion in Table 5-1 to "disseminate information to the public about needs of industry for our graduates" has a high rating. So does the suggestion to "offer parents information about the advantages of vocational education." Not only do these suggestions have high mean scores; the difference between the prescriptive and descriptive scores indicates that much remains to be done. Obviously the teachers would like to see much more energy devoted to informing the public. The parents of students are their primary concern.

Help from professional associations. As indicated in Chapter IV, large numbers of trade and technical teachers participate in professional organizations. This interest in professional organizations prompted two suggestions in the PDQ. The suggestion to "encourage the interest of technical societies in schools" reflects the belief that this type of association could help improve vocational education in the schools. However, the large spread in the prescriptive and descriptive scores reported in Table 5-1 indicates that, in the minds of the teachers, what is being done by the professional organizations falls far short of what should be done.

Exactly what professional associations should be doing is not explored in this study. However, one indication of what could be done is revealed in the suggestion to "encourage professional associations to work for the awarding of credit for the in-service training of teachers." (See Table 6-4.) The problem of awarding credit on salary schedules for the types of in-service training needed by trade and technical teachers is a matter of deep concern. The problem is discussed in more detail in Chapter VI.

Institutional Differences on Environmental Scores

The differences between the responses of junior college, high school and correctional teachers on environmental suggestions fall into distinct patterns. Since junior college teachers represent such a large percentage of the study population, their mean scores in sections I and II of the PDQ (Tables 5-1 and 5-2) do not differ significantly from the overall scores. The high school teachers differ from the overall population at a significance level of less than 1 percent on one prescriptive item and on five descriptive items. The correctional teachers differ at the same significance level on seven prescriptive items and twelve descriptive items. When the high school and correctional teachers differ from the overall population, their prescriptive means are all higher and their descriptive means are all lower.

High school teachers. The one prescriptive item which the high school teachers rank above the overall score is the suggestion to "maintain vocational teacher salaries in line with trade and technical salaries in industry." The wide range in prescriptive and descriptive scores on this item clearly indicates that high school teachers feel more keenly the discrepancy between their salaries and the wages of their counterparts in industry.

High school teachers give lower descriptive scores than the overall population on the following five items:

> Utilize advisory committees from trade and technical fields.
>
> Replace equipment.
>
> Utilize trade and technical teachers as vocational counselors.
>
> Encourage the combination of vocational and academic teachers in administrative committees.
>
> Bring administrators into the activities of vocational education.

If the perceptions of the high school teachers are correct, these events take place with less frequency in high schools than they do in junior colleges and correctional institutions.

Correctional teachers. The perceptions of correctional teachers differ the most from the perceptions of the overall study population. The seven prescriptive scores with higher means than the overall population are as follows:

> Offer programs of vocational orientation for academic and vocational students.
>
> Offer students information about the disadvantages of employment without sufficient training.
>
> Emphasize the importance of general education for vocational students.
>
> Encourage teachers of academic subjects to emphasize vocational applications.

Take courses to meet academic requirements for professional advancement.

Encourage the interest of technical societies in schools.

Offer academic subjects taught by vocational teachers to emphasize vocational applications.

Correctional teachers would like to provide a very strong vocational orientation for their students, if one can judge from the items which relate to students above. Furthermore, general education is seen to have a strong vocational utility -- if taught as desired. In fact, correctional teachers rate higher than other teachers the suggestion that they teach academic classes themselves, in order to emphasize vocational applications.

One might assume from the high scores on this item that correctional teachers would like to be involved in numerous "courses to meet the academic requirements for professional advancement." However, the enrollment of correctional teachers, discussed earlier in Chapter III, reveals that this is not the case. In spite of the high score given by correctional teachers on this item, high school teachers and junior college teachers actually enroll for more course work.

Correctional teachers also rate the suggestion of "encouraging the interest of technical societies in schools" higher than do teachers in other types of institutions.

Among the twelve descriptive scores which are lower than the overall scores are five items which refer to teachers:

Join with vocational teachers to develop courses together.

Join with vocational teachers to do team teaching.

Encourage the combination of vocational and academic teachers in administrative committees.

Provide social activities which combine both vocational and academic teachers.

Devote time to vocational teacher recruitment.

It would appear from the low descriptive responses to these items that correctional teachers have fewer teaching, administrative and social relationships with other teachers, both vocational and academic, than the overall study population. They also appear to take a smaller part in teacher recruitment.

Four of the low descriptive scores of correctional teachers relate to program development and articulation:

Devote time to re-evaluate goals of vocational education.

Devote time to updating course content.

Articulate program for coordination of courses between junior high, high school and college.

Emphasize the distinctions between entry level (occupational), trade (non-professional) and technical (semi-professional) courses.

It would appear from these scores that correctional teachers spend less time in the development and articulation of vocational programs.

Correctional teachers also report fewer attempts to "bring administrators into the activities of vocational education."

Two suggestions relating vocational education to the community environment also receive lower scores. Correctional teachers report lower scores on attempts to "offer parents information about the advantages of vocational education" and to obtain "industrial scholarships for vocational students." These items apparently apply more to public schools than correctional institutions.

Summary

School environment. The school arena dominates the environmental concerns of trade and technical teachers. This is not surprising since the teachers are immersed daily in the events and personalities of the teaching profession. The school arena has an immediate and direct relationship to their careers.

The teachers feel that the climate of their professional careers is set by the administrative philosophy of the school in which they teach. More than anything else, they would like to "enjoy a philosophy of administration which supports vocational education." Bringing administrators into the activities of vocational education is seen as important to improving the administrative climate for vocational education.

Enjoying "a status in which vocational teachers are equal to academic teachers" ranks second in importance only to enjoying the support of the administration. Vocational teachers are conscious of their separation from the academic teachers and are ready to build better relationships. Their suggestions for building better relationships involve working through extra-classroom contacts. However, the teachers are reluctant to build this relationship through such shared classroom situations as cooperative course development and team teaching.

Another item of considerable concern is salary. Trade and technical teachers often feel that salary schedules and professional advancement are measured by criteria related to academic teachers, which do not recognize adequately the needed trade and technical competencies of vocational teachers.

Vocational teachers often feel that guidance personnel does not have the training or the background to do vocational counseling. Sometimes counselors even feel a bias against vocational education. The proposed solutions usually fall into two categories. One solution calls for a reorientation of academically-oriented counselors and the other calls for supplemental counseling by vocational teachers. Although both suggestions find much support among teachers, the higher score for reorienting the counselors seems to indicate that they feel that counselors ought to be doing the necessary job of vocational counseling.

The teachers emphasize that only "students who have the ability to do the work" should be enrolled in vocational courses. They want them to have a good academic background because so much of the vocational instruction depends upon this. Vocational teachers feel that if these factors are met, they can more easily accomplish their desire to graduate competent students. They also feel that both academic and vocational students should have a good orientation to vocational education.

The problem of the "hire out" bothers the teachers because students do not stay with the vocational programs long enough to gain the needed competencies. There is no indication that they blame industry for this phenomenon. However, they do feel that industry has a responsibility to students which might be partially met by providing scholarships.

A frequent problem is having more students than alloted space can comfortably accommodate. The teachers would limit the size of the class to the space deemed necessary.

Community environment. The types of discussion topics about which trade and technical teachers talk most frequently provide indices of concerns for the community environment of trade and technical education. The teachers discuss much more frequently how changing technology, job markets, employer policies and the economic situation affect their teaching situation, than how the international situation is influencing the local vocational scene. This would indicate that the teachers are most concerned with those matters which appear to have an immediate and direct relationship to their personal teaching situations.

The teachers also feel a close relationship with industry and there is every indication that they desire an even closer one. This is indicated by their desire to make even more use of advisory committees from industry and to "tailor vocational courses to meet the demands of industry." Mutual dependencies of vocational education and industrial employment for graduates appears to be the basis for the desired liaison.

This also involves the need of vocational teachers to keep up to date by maintaining an exposure to trade and industrial developments.

According to teachers, industry could partially meet its responsibility to vocational education by providing scholarships for students and in-service training for vocational teachers.

At the heart of problems in the community environment is the lack of public information about vocational education. The most immediate concern calls for the re-education of parents. Parental resistance to vocational education is seen to be the basis of many student problems.

The high degree of teacher participation in professional organizations prompted the suggestion to "encourage the interest of technical societies in schools." One indication of what could be done is revealed in the suggestion to "encourage professional associations to work for the awarding of credit for the in-service training of teachers."

Institutional differences. The institutional differences between the responses of junior college, high school and correctional teachers on environmental suggestions have distinct patterns. Junior college teachers have no mean scores which differ from the overall means at the 1 percent level of significance. High school teachers have one prescriptive score and five descriptive scores which vary from the overall scores. The correctional teachers have seven prescriptive scores and 12 descriptive scores which vary from the overall scores. Thus, correctional teachers vary most from the overall population.

For both high school and correctional teachers, all prescriptive scores which vary from the overall means are higher and all descriptive scores which vary from the overall means are lower.

High school teachers are more concerned than other teachers about their salary differentials with their counterparts in industry, and indicate their concern with a higher score for equalization. Among the descriptive scores they call for less activity at the high school level with advisory committees, with vocational counseling by teachers, in combining vocational and academic teachers in administrative committees, in bringing administrators into vocational education and in replacing equipment.

The strong vocational orientation with students by correctional teachers is reflected in their prescriptive scores, including their vocational applications of academic education. They also indicate a desire for more courses to meet the academic requirements for professional advancement and give more emphasis to encouraging the interest of technical societies in schools.

Correctional teachers indicate with their descriptive scores, fewer social, teaching and administrative relationships with other teachers and less activity in teacher recruitment. They also show lower descriptive scores for program development and articulation, bringing administrators into the area of vocational education and relating vocational education to the community environment. Some of the lower descriptive scores reflect the fact that correctional institutions are distinctively different from public schools.

CHAPTER VI

TRAINING OF TRADE AND TECHNICAL TEACHERS

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TRAINING OF TRADE AND TECHNICAL TEACHERS

Pre-Service Training

Trade and technical teachers have the problem of transition from a trade and technical career to an educational career. This period is critical for the new teacher. Success in teaching provides the satisfaction and the motivation necessary to continue teaching. For this reason, teachers attending the group interviews were asked to identify what their needs had been at the time they made this transition. The suggestions of the teachers were incorporated in Section III of the PDQ.

Importance of instruction. Nine of the 14 items teachers rate highest in the PDQ (see Table 6-1) on an "importance" scale are involved with instruction. A statement from one of the teachers interviewed shows the central concern behind these suggestions.

> . . . When I came in as a full-time teacher, I found that the biggest thing that I had to do was to completely re-evaluate the way I presented (instructional material). And this was after I had been a superintendent of construction for years . . . . I found that I had to break everything down into little individual items . . .

Another interviewee stated, "What I needed was to learn how to be a teacher."

Three of these nine top-ranking items deal with the practical experience of teaching. The item with the highest mean score and the greatest consensus (lowest standard deviation) is "include observation-demonstration sessions with master (expert) teachers." The second

TABLE 6-1

RECOMMENDATIONS RELATED TO TEACHER TRAINING

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1	Include observation-demonstration sessions with master (expert) teachers.	4.24	.88	4.21	.89	4.25	.88	4.21	.93
2	Demand practice-demonstrations of all trainees.	4.20	.98	4.18	.86	4.16	1.03	4.45	.75*
3	Give emphasis to the learning process (how students learn).	4.16	.85	3.94	.79*	4.20	.84	4.17	.97
4	Emphasize teaching methodology (how to teach).	4.14	.90	3.92	1.00	4.18	.86	4.16	.95
5	Schedule training programs so that teachers can work while training.	4.11	1.04	4.15	1.03	4.11	1.04	4.01	1.06
6	Orient trainees to sources of local help.	4.05	.92	4.06	.87	4.06	.92	3.96	1.08
7	Emphasize lesson planning.	4.04	.94	3.86	.90	4.06	.96	4.16	.88
8	Include the particular techniques of teaching specific subject areas.	4.01	.90	4.25	.77*	3.98	.92	3.91	.91

TABLE 6-1 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
9	Stress curriculum development.	4.00	.91	3.89	1.03	4.01	.90	4.04	.82
10	Encourage industry to provide scholarships for vocational teacher training.	3.99	1.14	4.29	1.03*	3.89	1.18	4.18	.94
11	Offer supervised (practice) teaching.	3.99	.94	4.02	.79	3.98	.97	4.00	1.00
12	Emphasize testing methodologies.	3.98	.93	3.74	.94	4.02	.93	4.07	.91
13	Provide subject area groupings of trainees.	3.93	1.04	4.05	1.00	3.91	1.03	3.87	1.13
14	Provide federal scholarships for vocational teacher training.	3.89	1.21	4.02	1.01	3.89	1.22	3.76	1.15
15	Include instruction in audio-visual methods.	3.88	.99	3.72	1.05	3.92	.99	3.87	.91
16	Train teachers to do vocational counseling.	3.74	1.07	4.14	1.00*	3.70	1.04	3.44	1.18
17	Disperse teacher training throughout the state.	3.70	1.25	3.60	1.30	3.72	1.26	3.66	1.10

TABLE 6-1 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
18	Maintain a program of up-dating written credential examinations.	3.69	1.19	3.77	1.04	3.69	1.22	3.60	1.23
19	Provide funded internships for vocational teachers.	3.67	1.25	3.97	1.02*	3.65	1.29	3.34	1.18
20	Interpret pertinent research for teachers in subject areas.	3.67	.96	3.69	.96	3.69	.95	3.52	1.07
21	Stress techniques of handling discipline problems.	3.65	1.07	4.14	1.01*	3.50	1.04	3.93	1.01
22	Include training in adolescent psychology.	3.30	1.04	3.46	.97	3.27	1.04	3.24	1.19
23	Interpret recent research for teachers in education.	3.30	.98	3.35	1.05	3.26	.97	3.48	.90
24	Provide T.V. recordings of classroom instruction for evaluation for new teachers.	3.21	1.22	3.21	1.17	3.24	1.25	3.02	1.11
25	Include instruction in school law for teachers.	3.21	1.05	3.09	1.06	3.25	1.04	3.13	1.06

TABLE 6-1 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
26	Start beginning teachers with team teaching.	3.30	1.04	3.46	.97	3.27	1.04	3.24	1.19
27	Include instruction in school finance.	2.93	1.03	3.03	1.01	2.90	1.04	2.98	1.06
28	Begin prospective teachers on a part-time basis.	2.54	1.38	2.54	1.39	2.59	1.37	2.23	1.36

* These are the only items where the response from the institution differs from the overall population at a five per cent significance level. The significance levels of these seven items in the order of their appearance are:

High School 3.8%, -3.5%, -3.0%, -.3%, -3.3% and less than .2%.
Correctional -3.5%

highest suggestion is "demand practice-demonstrations of all trainees." A third suggestion is "offer supervised (practice) teaching." Teachers evidently believe that they learn best by doing and/or seeing master teachers demonstrate good teaching.

Teachers also emphasize the methods and techniques of instruction among their top-ranking suggestions. "Emphasize teaching methodology (how to teach)," they insist. "Include the particular techniques of teaching particular subject areas" and "emphasize testing methodologies" also are among the top-ranking items.

Also related to the "art" of instruction in the eyes of the teachers is the preparation and planning that goes into it. "Emphasize lesson planning" and "stress curriculum development," they urge.

"Give emphasis to the learning process (how students learn)" ranks third in the suggestions. One teacher related this concern to instruction in the following manner:

> . . . The thing that should be taught to the prospective teacher is how to teach. Now, how to teach means how to create a situation where your student is going to learn . . . . Basically what this means is relating your subject to him . . . . A student cannot learn anything unless it relates to his own past experience, so that to teach you have to take your subject and say it is like this, or like that and these similarities must be out of his experience. Then he can learn.

Financial help. Financial concerns also rank high, as the teachers recalled their initial teaching periods. Remembering the financial sacrifices they made when they left regular employment to take teacher training courses, they suggest that training programs should be scheduled "so that teachers can work while training." However, in their minds it would not be financially sufficient to "begin prospective teachers on a part-time basis." Mindful that industry provides substantial scholarships to train scientists and others in advanced degree programs, they feel that industry should be encouraged "to provide scholarships for vocational teacher training." After all, they reason, industry benefits from our "product." Because the federal government also has a stake in the quality of the product, many teachers think that the government should "provide federal scholarships for vocational teacher training." High school teachers would add "funded internships" for vocational teachers.

Subject area groupings. Another major concern in teacher training is the emphasis on subject areas. Stated one teacher,

> . . . When it comes right down to teaching auto mechanics we don't concern ourselves with the hair and eyebrows (a reference to cosmetology), so if we could spend our time under the direction of a competent auto shop teacher, someone who has experience in the trade, . . . I think we could get a lot more out of it.

For this reason, teachers suggest that "techniques of teaching specific subject areas" and "subject area groupings of trainees" should be inherent in teacher training programs.

Help at the local level. Also ranked high is another suggestion to "orient trainees to sources of local help." "I would have given anything if I could have gotten together with someone, a teacher, who had a lot of experience," stated one teacher. Frequently a teacher does not know where to turn for help at the local level.

Vocational counseling. High school teachers include one other concern among the top-ranking suggestions. They also would "train teachers to do vocational counseling." In their minds, vocational counseling, emphasized elsewhere in this report, could be enhanced by training the vocational teachers to handle more of this responsibility.

In-service Training

Improving skills. The attitudes of trade and technical teachers about in-service training are unmistakably favorable. In the SPQ, 185 teachers indicated that "participating in a program of in-service training" is the most helpful suggestion "in improving teaching skills" of those offered in the questionnaire. (See Table 6-2.) In fact, this item received the highest mean score of any item in the entire questionnaire. Furthermore, the low standard deviation indicates more agreement on this item than any other activity for improving teaching skills.

The second highest mean score in this section of the SPQ is for "studying personal points of strength and weakness." Unfortunately, this item is too vague. Nevertheless, we would judge that it reflects the teacher's drive to improve his methods and techniques of instruction and to increase his knowledge of subject area fields. Furthermore, it indicates a willingness to engage in an introspective self-appraisal.

Desired experience. Table 6-3 reports the kinds of experiences the teachers would "include in an in-service program to increase their

TABLE 6-2

ACTIVITIES CONSIDERED HELPFUL IN IMPROVING TEACHING SKILLS

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Participating in a program of in-service training	4.27	1.02	5	7	25	42	104	2
Studying personal points of strength and weakness	3.96	1.11	6	11	38	47	74	7
Working on a job to gain practical work experience	3.88	1.40	19	18	20	33	92	3
Taking courses in professional subjects	3.81	1.28	14	17	32	42	74	6
Seeking independent advice and information	3.66	1.17	11	13	58	41	56	6
Observing and reporting different types of teaching	3.65	1.28	12	24	47	30	68	4
Participating in advisory committees	3.63	1.19	12	17	46	52	51	7

TABLE 6-2 (continued)

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Studying and investigating professional problems	3.56	1.24	16	15	47	48	48	11
Studying the community	3.34	1.36	26	28	35	47	37	12
Participating in a personal reading program	2.74	1.33	45	32	46	38	19	5

TABLE 6-3

IN-SERVICE SUGGESTIONS FROM TEACHERS*

Suggestion	Number		Percentage	
Subject area studies (workshops, seminars, conferences, etc.) .		147		79.4
Trade experience		71		38.4
Teaching methods and techniques				
Audio-visual	23		12.4	
Tests and measurement	7		3.8	
Others	32		17.3	
		62		33.5
Observation-demonstration teaching				
By others	31		16.8	
By self	14		7.6	
		45		24.4
Formal courses				
Vocational	22		11.9	
General	3		1.6	
Educational	8		4.3	
Others	7		3.8	
		42		21.6
Industrial visitation		28		15.1
Supervised (practice) teaching under master teacher . . .		17		9.2
Others		47		25.4
No answer		11		5.9

* Each teacher was asked to make five suggestions.

TABLE 6-4

RECOMMENDATIONS RELATED TO IN-SERVICE TRAINING

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1	Maintain exposure to the latest trade and technical developments in subject area fields.	4.63	.62	4.62	.58	4.64	.62	4.54	.65
2	Insist that up-dating trade and technical experience be rewarded on salary schedules.	4.34	.88	4.43	.85	4.37	.86	4.06	1.00
3	Provide in-service training on new equipment.	4.28	.86	4.22	.89	4.31	.84	4.21	.94
4	Encourage industry to provide in-service training for vocational teachers.	4.18	1.05	4.36	.74	4.11	1.11	4.35	.95
5	Include a program of in-service training for counselors.	4.18	.86	4.29	.81	4.17	.87	4.07	.90
6	Provide observation-demonstration sessions with master (expert) teachers.	4.16	.91	4.17	.80	4.14	.94	4.26	.87

TABLE 6-4 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
7	Resist academic bias in awarding salary credit for vocational training of trade and technical teachers.	4.14	1.03	4.32	.84	4.13	1.04	3.91	1.13
8	Provide for exchange of teaching methods within subject areas.	4.13	.85	4.23	.70	4.11	.88	4.10	.81
9	Encourage professional associations to work for the awarding of credit for the in-service training of vocational teachers.	4.10	.97	4.31	.81	4.07	.99	3.93	1.02
10	Encourage the institutions of higher education to provide in-service training.	4.09	.95	4.23	.83	4.03	.97	4.00	1.01
11	Encourage academic credit for in-service training in vocational education.	4.08	.99	4.23	.91	4.07	.99	4.00	1.04
12	Maintain a roster of teachers for communication within subject area fields.	4.06	.94	4.06	.91	4.04	.96	4.17	.89

TABLE 6-4 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
13	Encourage in-service training at the local level.	4.03	.97	3.94	1.05	4.04	.96	4.07	.93
14	Maintain a center for information concerning in-service training opportunities.	4.02	.95	4.14	.87	3.99	.96	4.09	1.00
15	Provide training for new subject areas.	4.01	.93	4.14	.75	3.98	.95	3.98	1.00
16	Train teachers to do vocational counseling.	4.01	1.06	4.31*	.89	3.97	1.08	3.85	1.11
17	Interpret pertinent research for teachers in subject areas.	3.98	.91	3.95	.90	3.99	.89	3.96	1.03
18	Provide time off from teaching for in-service training.	3.94	1.14	3.86	1.18	3.91	1.14	4.24	1.10
19	Provide a program of industrial visitation.	3.93	1.07	4.05	.93	3.86	1.04	4.14	.99
20	Provide in-service training by subject areas.	3.92	.96	3.88	.98	3.65	.99	3.66	.96

TABLE 6-4 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
21	Demand practice-demonstration sessions for all trainees.	3.92	1.07	3.86	.92	3.88	1.13	4.27*	.84
22	Provide time off for curriculum improvement as a part of in-service training.	3.92	1.10	3.66	1.12	3.93	1.11	4.15	.94
23	Offer field trips to schools to observe master teachers.	3.83	1.00	4.00	.92	3.77	1.02	3.94	1.01
24	Deal with the problems of articulation between junior high, high school and college.	3.76	.97	3.88	.82	3.76	.98	3.60	1.10
25	Encourage a broad range of general courses for personal growth.	3.73	1.00	3.48	.97	3.75	1.01	3.91	.97
26	Provide in-service training for job clusters (closely related vocations).	3.68	.96	3.65	.94	3.65	.99	3.87	.85
27	Insist on recency of trade and technical experience for salary advancement.	3.68	1.21	3.63	1.37	4.75	1.17	3.40	1.25

TABLE 6-4 (continued)

Rank	Question	Overall		High School		Junior College		Correctional	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
28	Interpret recent research for teachers in education.	3.65	.96	3.55	.97	3.64	.96	3.83	.92
29	Provide orientation to problems of administration.	3.56	.95	3.63	.82	3.53	.95	3.66	1.13
30	Provide inter-trade seminars (differing vocational areas).	3.28	1.07	3.28	1.18	3.26	1.05	3.36	1.03

* These are the only two items where the response from the institution differs from the overall population at a five per cent significance level. The significance levels of these two are:

High School -1.3%
Correctional - .8%

effectiveness as a teacher." Judging from these responses, in-service training most frequently means subject area studies carried on in workshops, seminars and conference settings. Seventy-nine percent of the teachers made suggestions in this category.

Actual trade experience is mentioned by 38.4 percent of the respondents. The desire for practical work experience is also affirmed in Table 6-2. These two responses (subject area studies and trade experience) are illustrative of the strong vocational orientation of teachers in this study.

The third and fourth largest categories of suggestions concern actual instruction. Suggestions about teaching methods, techniques and aids are offered by 33.5 percent of the teachers. The observation and demonstration of these methods by master teachers (experts) or colleagues is suggested by 24.4 percent of the teachers. The group interviews and the responses in Section IV of the PDQ (Table 6-4) indicate that a large percentage of teachers want to observe master teachers. Many teachers also would like their teaching to be observed and evaluated.

An interest in more extensive in-service training than the short workshops, seminars or conferences is indicated by the frequency of requests for formal courses. This indicates that a significant group of teachers would consider investing effort toward an upgrading of their professional proficiency.

Strong attitudes. A more detailed inquiry into the thoughts of teachers concerning in-service training is reported in Table 6-4 (Section IV, PDQ). Among those items with mean scores above 4.00

(in a range of 1.00 to 5.00) are 16 items which reflect strong attitudes of trade and technical teachers about (1) updating trade and technical training, (2) salary scale credits, (3) relation of subject area to training, (4) teaching methods, (5) institutional sponsorship of training, (6) vocational counseling and (7) a data bank of information to facilitate communication.

The interest of teachers in updating their knowledge and skills in unmistakable. The highest overall mean score (4.63) was given to the suggestion "maintain exposure to the latest trade and technical developments in subject area fields." The unusually low standard deviation indicates the consensus of teachers about this suggestion. This interest is exemplified by the comment of one teacher that we must "bring teachers back together for a complete demonstration of new things that have come in the last two, three, four or five years." Part of the required updating of trade experience is necessitated by new equipment. The high score for the suggestion to "provide in-service training on new equipment" reflects this concern.

Sometimes keeping up to date as a teacher means acquiring competence in a new subject area. Stated one teacher,

> I think we all should become qualified in other areas than our own. Why teach something that is going out? I think our greatest need in the vocational and trades is that we are not as strong as we should be because we have only one background.

This is the type of concern that supported a high score for in-service training for "new subject areas."

Teachers desire in-service training by subject areas. This is the meaning of "peer" groups in the following comments:

> I think teachers in like-subjects, peer groups, should be put in the same course.
>
> Yes, you must have peer groups. It would be silly to put bakers and plumbers and nurses all together.

The specific item on the questionnaire which singles out the suggestion of subject area grouping falls below the 4.00 level of mean scores (3.92). However, when this notion is incorporated in other suggestions the scores are well above this level. For example, four suggestions in Table 6-4 (rank 1, 8, 12 and 15) include this idea.

Teachers have a goodly interest in improving their methods of instruction. There is strong support for this when coupled with the idea of using master teachers or colleagues in subject areas. "There is nothing that does you so much good," asserted an interviewee, "as to observe an expert." Providing for an "exchange of teaching methods within subject areas" is second only to providing "observation-demonstration sessions with master (expert) teachers."

Trade and technical teachers are highly sensitive to the "academic bias." They feel that courses to increase their vocational competence are necessary for their professional growth. But many school districts are unwilling to give credit for this type of training. Vocational teachers enter teaching with less education than academic teachers and find it harder to acquire additional credits toward an increase on salary schedules. One vocational teacher complained,

> They (academic teachers) can go back to school and take a course in English, or history, to upgrade themselves. I think

> that additional credit should be given vocational instructors to also keep abreast of the latest.

Stated another teacher,

> I would like to make a continuing requirement . . . (so that) every person is required and would receive credit for attending something like (the in-service workshop for cosmotologist) they have at Lake Arrowhead each fall. There you meet with your peer group and talk over what your individual problems are and try to come up with answers within the group . . . .

The strength of the feeling about the difficulty of receiving credit for work experience and in-service training in vocational education is seen in the high scores given related suggestions in the PDQ. "Insist that updating trade and technical experience be rewarded on salary schedules" received the second highest mean score. The suggestion to "resist academic bias in awarding salary credit for vocational training of trade and technical teachers" also received a high score. Another suggestion that professional associations should "work for the awarding of credit for the in-service training of vocational teachers" stresses the feeling of inequality and unfairness. It is significant that the terms "insist" and "resist" received more support that a milder statement to "encourage academic credit for in-service training in vocational education."

Vocational teachers also see an important place for vocational counseling in in-service training. "I feel that we need a greater force in vocational counseling," stated one teacher. "We are not getting the counselors and the guidance that we need for vocational education," asserted another. A typical comment is "we have too many academic counselors." One teacher suggested that some of the funding from national and state sources "should be alloted strictly for (vocational) guidance and counseling." Others suggested that vocational teachers should play more of a role in vocational counseling.

Two suggestions concerning vocational counseling were included in the PDQ. One suggestion is to "include a program of in-service training for counselors" along with in-service training for teachers; another is to "train teachers to do vocational counseling." The overall population gives the former suggestion a higher score. However, high school teachers disagree with the overall population on this suggestion. They give the training of teachers a higher score than the inclusion of counselors in training programs. Both of these statements reflect considerable dissatisfaction with the current status of vocational counseling.

The institutional sponsorship of in-service training programs is also an interest of vocational teachers. They made suggestions that industry, colleges and universities and local school districts should take responsibility for such programs. All three suggestions rank above the 4.00 level. Industry received the highest score. We assume that teachers would take advantage of such training sponsored by any of these types of institutions if it met their needs.

Vocational teachers advocate the maintenance of a central data bank of information about teachers and in-service programs. Suggestions to "maintain a roster of teachers for communication within subject area fields" and to "maintain a center for information concerning in-service training opportunities" rank among those scoring high.

In addition to the items in the PDQ, which were developed from the suggestions of teachers in group interviews, the SPQ arbitrarily introduced a broad range of questions to explore satisfactions and problems of trade and technical teachers with instruction. From this instrument we gain supplemental information for consideration in in-service training programs.

Satisfactions. As indicated in Table 6-5, teachers feel considerable satisfaction with the traits they exhibit in teaching subject matter. They also report much satisfaction with their pedagogical "technology."

However, they feel less satisfaction in their work with individual needs and problems of students, such as investigating and evaluating pupil needs, abilities and achievements, as well as selecting, presenting and adapting assignments to pupils. We wonder whether the teachers consider some of these items to be the responsibility of others (e.g., students, administration), but this cannot be ascertained with the information from this questionnaire.

The teachers are generally satisfied with their abilities to teach pupils to study when this is connected with subject matter. (See Table 6-6.) This is reflected in their satisfactions in teaching pupils to improve skills and abilities, developing individual tendencies and abilities, developing traits and habits, developing useful

TABLE 6-5

SATISFACTION WITH TEACHING SUBJECT MATTER

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Exhibiting useful teacher traits (e.g., interest in subject and pupils, qualities of leadership)	3.98	.82	..	14	21	102	45	2	1
Selecting and organizing subject matter	3.88	.96	1	24	17	92	47	2	2
Setting up objectives	3.86	.89	1	18	25	96	39	3	3
Developing pupil interests in subject matter	3.81	1.11	4	34	8	85	53	..	1
Instructing -- presenting subject matter	3.73	.97	2	27	23	95	34	1	3
Planning activities and methods	3.64	.97	..	37	18	97	28	4	1
Selecting, presenting and adapting assignments to pupils	3.58	.99	1	34	32	84	28	4	2

TABLE 6-5 (continued)

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Providing sufficient opportunity for pupils' activities	3.45	1.10	5	39	29	69	28	13	2
Investigating and evaluating pupil needs, abilities and achievements	3.20	1.09	6	54	38	63	20	4	..
Providing facilities for individual study (e.g., time, assistance, materials)	3.01	1.15	13	56	37	50	17	11	1

TABLE 6-6

SATISFACTION WITH TEACHING PUPILS TO STUDY

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Teaching pupils to establish friendly relations with other pupils	3.93	.72	..	5	37	102	35	4	2
Teaching pupils how to improve skills and abilities	3.90	.94	1	23	12	98	44	..	7
Teaching pupils to develop individual tendencies and abilities	3.83	.92	..	23	23	93	39	2	5
Teaching pupils to develop traits and habits	3.77	.92	1	23	27	96	34	..	4
Teaching pupils to develop useful interests, worthy motives and sincere appreciations	3.70	.94	1	25	33	89	32	3	2
Teaching pupils to solve problems	3.70	.98	1	28	32	85	37	..	2

TABLE 6-6 (continued)

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Teaching pupils to participate in class activities	3.64	.89	1	24	33	96	21	5	5
Teaching pupils to meet formal requirements	3.59	.86	1	25	36	98	16	5	4
Teaching pupils to make economical use of time	3.31	1.07	6	43	42	66	22	2	4
Helping new students become adjusted	3.81	.84	1	15	30	98	30	8	3
Regulating classroom attendance (controlling tardiness and absence; excusing, dismissing and detaining pupils; sending pupils on errands)	3.78	1.06	4	24	25	75	46	9	2
Adapting teaching procedures to individual problems	3.78	.90	1	20	27	94	32	8	3
Giving examinations and tests	3.77	.93	3	21	22	102	31	4	2

TABLE 6-6 (continued)

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Collecting materials from pupils (for class projects, etc.)	3.72	.89	2	15	29	83	23	30	3
Working with school regulations, social conventions, and personal obligations ("working with" includes motivating, explaining, instructing, inspecting, evaluating and enforcing)	3.71	.88	3	12	39	82	25	17	7
Investigating difficulties in pupil relationships	3.67	.84	2	15	40	92	20	12	4
Applying remedies to pupil problems	3.60	.84	2	16	45	86	17	15	4
Grouping pupils	3.54	.90	1	20	41	66	17	35	5
Using pupil assistants	3.49	1.02	4	25	36	63	22	32	3

interests, worthy motives and sincere appreciations and in solving problems. On the other hand, they are less satisfied with their efforts to teach pupils to make economical use of time, meet formal requirements and to participate in class activities.

Again, we wonder if teachers feel more satisfied with the responsibilities which are seen to be distinctively their own (e.g., improving skills and abilities) than those which are seen to be the responsibilities of the students (e.g., making economical use of time and meeting formal requirements).

One item which appears to be distinctively different from either of these observations ranks highest in satisfaction, namely, teaching pupils to establish friendly relations with other pupils.

The three sections of the questionnaire dealing with satisfactions indicate that teachers are most satisfied with their activities involving contacts with pupils. (See Table 6-7.) More specifically, the teachers indicate that they are most satisfied with class management types of activities, such as maintaining classroom control, conducting laboratory or shop exercises, conducting classroom studies, scheduling activities, opening school sessions and making announcements. The teachers also report substantial satisfaction connected with normal personal relationships with pupils, such as securing cooperation and establishing effective personal relationships. Both occupational and educational guidance are included among the most satisfactory types of contacts with pupils.

TABLE 6-7

SATISFACTION WITH ACTIVITIES INVOLVING CONTACTS WITH PUPILS

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Maintaining classroom control	4.22	.88	4	8	7	88	74	2	2
Securing cooperation from students	4.16	.72	2	3	13	109	54	1	3
Establishing effective personal relationships with pupils	4.13	.74	1	4	21	99	55	1	4
Giving occupational guidance	4.12	.85	2	9	16	89	61	6	2
Making announcements	4.01	.83	3	6	24	98	47	5	2
Opening school sessions (meeting, admitting, greeting and getting pupils started at the first of the year)	4.01	.82	1	9	22	90	45	15	3
Conducting laboratory or shop exercises	3.98	.93	2	17	15	92	51	3	5

TABLE 6-7 (continued)

Item	Mean	Standard Deviation	Frequency						No Answer
			Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied	Not Involved	
Adapting teaching procedure to physical conditions of classroom and equipment	3.95	.91	2	15	18	92	45	5	8
Giving educational guidance	3.88	.93	2	15	28	81	43	11	5
Conducting classroom studies	3.84	.82	1	13	28	100	29	8	6
Scheduling activities	3.83	.87	2	14	17	91	25	32	4

However, teachers report low satisfaction in working with the more unusual, individual and personal types of student problems. For example, such items as applying remedies to pupil problems, investigating difficulties in pupil relationships and adapting teaching procedure to individual problems most frequently fall in the categories of "unsatisfactory" or "neutral." This is also characteristic of responses concerning pupil needs and problems in connection with teaching subject matter, as reported above.

Working with school regulations is another comparatively unsatisfactory type of activity involving contacts with pupils. It is not surprising that controlling students and interpreting the rules and regulations are among the more unsatisfying activities of teachers.

As indicated below in the section concerning teacher problems in reporting information, pupil evaluation is a problem-laden and less satisfying type of activity. Although a considerable number of people feel satisfied, the number not reporting satisfaction (45) in giving examinations and tests warrants attention.

Problems. Another approach to the perceptions of teachers about their teaching emphasized problems. Teachers were asked to identify their problems in recording and reporting information concerning pupils, activities involving extra-classroom supervision of pupils, activities in connection with school plant and activities in connection with school supplies and equipment. The following report identifies the more pressing problems in the minds of the teachers.

Problems with supplies and equipment are the most frequently mentioned of those surveyed in the SPQ. The three most prevalent problems concerning supplies and equipment involve (1) obtaining (ordering and following-up) supplies, (2) maintaining supplies and (3) living with the paperwork involved. (See Table 6-8.) The selecting, ordering and following-up of orders constitute a definite sequence of problems related to supplies. The maintaining and cleaning of supplies and equipment become an immediate problem upon their acquisition. Evidently the paperwork involved with records and reports constitutes a third type of problem.

Problems with activities connected with the school plant are second only to problems with activities connected with supplies and equipment. Heading the list in Table 6-9 is the problem of securing necessary space. Keeping the facilities attractive is another notable concern of the teachers. Of third importance is a cluster of items involving temperature and ventilation, cleanliness and the maintenance of safety standards.

It is somewhat surprising that the attention given to safety in some vocational classes was not reflected in a higher mean score for maintaining safety standards. The distribution of scores on this item suggests that it is frequently a problem in some subject areas.

Student evaluation ranks highest in the list of problems connected with reporting information about pupils in Table 6-10. The problem of "marking" students seems to be supported by the low level of satisfaction with giving examinations and tests. The

TABLE 6-8

PROBLEMS WITH ACTIVITIES IN CONNECTION WITH SCHOOL SUPPLIES AND EQUIPMENT

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Ordering supplies	2.96	1.28	25	48	45	36	27	4
Following-up orders for supplies	2.95	1.20	23	45	48	44	19	6
Maintaining supplies and equipment in condition for use	2.66	1.23	36	52	46	30	16	5
Making records and reports concerning school supplies and equipment	2.47	1.21	44	54	18	15	8	8
Selecting supplies	2.37	1.22	53	54	39	21	13	5
Cleaning supplies and equipment	2.35	1.19	51	59	40	19	12	4
Making supplies and equipment	2.25	1.10	51	58	42	16	7	11
Making collections of supplies and equipment	2.24	1.15	53	63	33	16	10	10
Managing funds for supplies and equipment	2.17	1.28	68	54	22	14	16	11

TABLE 6-8 (continued)

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Arranging supplies for use	2.10	1.28	65	61	35	9	10	5
Borrowing supplies	1.97	1.11	77	54	28	8	9	9
Distributing supplies to students	1.94	1.06	76	60	29	8	7	5

TABLE 6-9

PROBLEMS WITH ACTIVITIES IN CONNECTION WITH SCHOOL PLANT

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Securing necessary space	2.89	1.39	37	41	38	32	32	5
Making facilities attractive	2.75	1.33	39	43	44	28	24	7
Maintaining proper temperature	2.36	1.23	53	57	33	23	13	6
Keeping buildings clean and orderly	2.34	1.23	54	55	37	18	14	7
Securing proper ventilation	2.32	1.31	62	50	32	17	18	6
Maintaining safety standards	2.31	1.28	56	63	33	8	21	4
Securing proper lighting	2.02	1.10	71	63	24	15	7	5
Taking proper precautions against fire	1.77	1.12	99	52	13	4	12	5

TABLE 6-10

PROBLEMS WITH REPORTING AND RECORDING INFORMATION CONCERNING PUPILS

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Marks	2.57	1.10	28	69	53	18	14	3
Tardiness	2.56	1.08	31	61	58	23	10	2
Attendance	2.49	.86	40	59	51	18	14	3
Classwork	2.38	1.00	31	76	55	7	10	6
Schedules	2.25	1.00	44	73	48	12	6	2
Withdrawals	2.19	.99	45	76	45	7	7	5
Admissions	2.08	1.08	70	51	42	14	5	3
Personal	2.07	.89	46	90	33	7	4	5
Promotion	2.03	1.10	66	66	29	8	9	7
Health	1.90	.86	67	74	35	4	2	3
Census	1.87	.94	71	78	21	6	5	4

problems connected with tardiness and attendance rank above the problems connected with recording classwork.

It would appear that the items in the lower ranks (from withdrawals, through census) are infrequent problems, with major responsibility for them placed upon other persons in the school system.

The items in Table 6-11 concerning extra-classroom activities reflect a generally low level of involvement with these problems on a frequency scale. It seems evident that informal contacts with pupils, special programs, drives and campaigns and supervision of student organizations, are among the more prevalent problems. However, even on these items only a few responses fall above the "occasional" category. The responses to this section of the questionnaire suggest that other areas are more worthy of consideration as persistent problems of trade and technical teachers.

Influential persons. The identification of persons who influence the teaching of vocational teachers also provides a guideline for the planning of in-service training. Table 6-12 indicates that most teachers are influenced by other teachers (62.7 percent). Significant numbers of teachers also report that they are influenced in their teaching by directors (coordinators) of vocational education (30.8 percent), students (30.8 percent) and department (division) chairmen (24.9 percent). One-third (33.0 percent) report that their teaching is influenced by tradesmen. This distribution of influence suggests the types of persons most likely to "reach" the trade and technical teacher in a training program.

TABLE 6-11

PROBLEMS WITH ACTIVITIES INVOLVING EXTRA-CLASSROOM SUPERVISION OF PUPILS

Item	Mean	Standard Deviation	Frequency					No Answer
			Never	Seldom	Occasionally	Often	Always	
Special programs	1.80	.94	82	54	29	3	4	13
Informal contacts with pupils	1.80	.96	83	65	20	6	5	6
Drives and campaigns	1.76	1.00	95	42	24	10	3	11
Organizations	1.76	1.00	91	40	26	8	3	17
Excursions	1.74	.96	96	36	33	6	2	12
Assemblies	1.68	.98	103	37	23	8	3	11
Social activities	1.68	.89	97	48	26	4	2	8
Recreation	1.51	.77	109	49	12	4	1	10
Pupils' publications	1.51	.87	113	30	17	4	2	19
Athletics	1.46	.85	118	34	9	6	2	16
Forensic activities	1.42	.83	119	29	9	3	3	22
Dramatic and musical	1.37	.76	124	26	10	2	2	21

TABLE 6-12

PERSONS WHO INFLUENCE THE TEACHING OF TEACHERS*

Influential Persons	Number		Percentage	
Teachers				
Vocational teachers	106		57.3	
Other teachers	10		5.4	
		116		62.7
Tradesmen		61		33.0
Directors (coordinators) of vocational education		57		30.8
Students		57		30.8
Department (division) chairmen		46		24.9
Spouse		25		13.5
Deans of instruction				
Vocational	17		9.2	
Other	4		9.2	
		21		11.4
Other administrative personnel		21		11.4
Friends		20		10.8
College professors		7		3.8
Teacher trainers		5		2.7
Directors of adult education		2		1.1
Others		42		22.7

* Each teacher was asked to designate three influential persons.

Summary

The training of trade and technical teachers has been divided in this study into pre-service and in-service training. The purpose of pre-service training is to help an individual make the transition from a trade or technical career to an educational career. The purpose of of in-service training is to assist a teacher in his professional growth while teaching. This chapter reports the perceptions of teachers about both kinds of training.

When teachers first begin to teach, their utmost concern is for practical help in actual instruction. They feel that this can be facilitated best by seeing and doing. They prefer that the focus be upon the methods and techniques related to specific subject areas. Closely related to the art of instruction is lesson planning, curriculum development and an understanding of the learning process. Knowing where help can be found at the local level is also a concern to many.

Second to the actual concern about doing the instructional job is the financial stress of the transitional period. The teachers feel that help at this point should come from those who receive the benefit from the product of their training -- industry and government.

The interest in and desire for in-service training programs for trade and technical teachers is unmistakable. It appears that a series of workshops or seminars for specific subject areas, taught by master teachers, to provide the latest information in the trade and to demonstrate sound methods of instruction, would be well received by teachers. Although they are more impressed with the facilities and practical orientations of industry they would also encourage institutions of higher education and local school districts to offer this training. If credit for salary schedules could be assured, the programs would have an even higher certainty of success. These assumptions are based on the high scores these factors received on the SPQ, the PDQ and the responses in interviews.

Vocational teachers also call for a program of in-service training for counselors, to update their skills in vocational counseling. Some also feel that teachers ought to be trained in counseling.

Teachers feel that these objectives ought to be coordinated through a central agency. This center, with information about teachers and in-service programs, should be charged with the responsibility of establishing and communicating the information about such programs.

The consensus of all institutional groups on the items in Section III and IV of the PDQ is striking. In Section III (pre-service training) only six items ranked by high school teachers and one item ranked by correctional teachers differ from the overall means with a significance level of 5 percent. High school teachers rank items concerning discipline, counseling by vocational teachers and funded internships among their 14 highest scores, although the overall study population does not rank them in this group. In Section IV (in-service training) only two items differ from the overall means with a significance level of 5 percent. In this section, correctional teachers include "practice-demonstration sessions for all trainees" among their high scores, although the overall population does not rank this item in this group. In both sections, the three institutional groups rank the high-scoring items in a slightly different order. The major finding of this study, however, is that teachers in different types of institutions concur in their prescriptions for teacher training.

Judging from the responses to the SPQ, it appears that trade and technical teachers are generally satisfied with their abilities and methodologies of teaching their subject areas. They are generally satisfied with the normal personal relationships with pupils in class management activities. They also rate themselves high in teaching pupils to establish friendly relationships with other pupils.

However, the teachers feel less satisfied in helping students solve their individual needs and their problems with personal relationships, study habits and school regulations. It may be that some of these problems are not seen to be the major responsibility of trade and technical teachers, although this has not been verified.

The teachers emphasize the problems of obtaining and maintaining supplies and equipment and of living with the paperwork connected with it. Securing necessary space was the most frequent problem connected with school plants. The common problem of student evaluation is the most troublesome activity in the category of "information about pupils." Responses to items grouped under "extra-classroom supervision of pupils" reflect the generally low level of involvement with these problems. These responses suggest that other areas are more worthy of consideration as persistent problems of trade and technical teachers.

CHAPTER VII

TRADE AND TECHNICAL TEACHERS TODAY AND TOMORROW

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TRADE AND TECHNICAL TEACHERS TODAY AND TOMORROW

This study has reported and analyzed the characteristics and perceptions of trade and technical teachers in California. The description of characteristics is based on 1,587 responses drawn from the total population of trade and technical teachers credentialed to teach full-time in California in September, 1966. These responses represent 40 of the 58 counties of the state and reflect the high concentration of teachers in the Southern section and the metropolitan areas. (See Appendix I.) The perceptions of the teachers are based on the responses of 185 teachers in 14 group interviews, the responses of 184 of these same teachers to the SPQ and the responses of another sample of 408 teachers to the two forms (prescriptive and descriptive) of the PDQ.

Institutional Differences

Three major types. The type of institutional employment is a discriminating factor in many comparisons. When junior college teachers are compared with high school teachers, correctional teachers and the overall population, these descriptions of the group apply:

> They compose 65.7 percent of the population, teach predominantly in metropolitan areas, have more formal education, include more women, have a lower work experience median than the overall population and earn the highest salaries. Junior college teachers have a high percentage of organizational memberships at all levels with emphasis upon NEA, AVA, CTA, CJCFA, CIEA and local professional educational groups.

When high school teachers are compared with junior college teachers, correctional teachers and the overall population, these descriptions of the group apply:

> They comprise 14.2 percent of the teachers, tend to be younger, have less work experience, teach in metropolitan areas, have less education than junior college teachers at the start of teaching, make the largest educational advancement while teaching, earn lower salaries than junior college teachers and earn the most additional income from non-school employment. High school teachers have a high percentage of organizational memberships at all levels with emphasis on NEA, AVA, CTA, CIEA, local professional educational groups and other educational and cultural groups at the local level.

Correctional teachers are the most distinctive group. When they are compared with junior college teachers, high school teachers and the overall population, these descriptions of the group apply:

> They comprise 10.5 percent of the teachers, are predominantly male, are older than all other groups, have much more work experience, teach in a particular "small town" community, start teaching with the least education, have less education currently and earn the smallest salary on a nine-month basis. Correctional teachers have fewer organizational memberships on the national and state levels, and at the local level they have high percentages of membership in service groups and labor organizations.

No "universal model". It is apparent from these descriptions that high schools, junior colleges and correctional institutions have different patterns of recruitment, different climates for vocational education, different vocational objectives, different working conditions, different constraints and opportunities for teachers and different reward systems for professional advancement. For these reasons, comparisons and recommendations based on a "universal model" for all vocational education in California are ill-advised. Therefore, the reader is cautioned in making this type of comparison from the descriptive data of this survey.

These institutional differences reveal different patterns of recruitment. For example, high schools are employing younger teachers who have the least amount of work experience, but considerably more education than correctional teachers. Junior colleges which employ about two-thirds of the teachers, hire those with more work experience and more education than the high schools. The ten percent of the teachers who work in correctional institutions have much more work experience, are much older, but have considerably less education.

We assume that these patterns of recruitment are fulfilling the vocational objectives of these educational institutions, although this has not been ascertained in this study. All indications in this study point to strong utilitarian objectives and orientations for students within correctional institutions. It is understandable that, with these objectives, correctional institutions seek teachers with an emphasis on work experience rather than formal education. On the other hand, high schools, which provide more general industrial arts and pre-vocational education, do not emphasize extensive work experience in teacher recruitment. They satisfy their needs with younger teachers who have more formal education. The junior college must live with the demands for both work experience and formal education.

Their more advanced level of vocational offerings requires both work experience and educational sophistication.

To obtain the most highly educated and vocationally competent teachers for trade and technical education, the junior college pays the highest salaries. The junior college system places a premium upon additional education while teaching, and makes extensive use of advisory committees to keep its vocational programs up to date. High schools provide a smaller salary for their teachers, place much less emphasis on advisory committees and vocational counseling, but motivate their teachers to make the greatest advances in formal education while teaching. Correctional institutions, which demand the least in formal education, also provide the smallest salary. Their working conditions and their student populations differ considerably from those of public institutions. They have different concerns about the community relationship to their vocational programs. They do not emphasize articulation and program development in relationship to other educational institutions. Their separation from society allows a more utilitarian approach to vocational education and isolates them from the more other-directed, "normative" pressures of the public.

Institutional differences also are discernable when teachers with additional credentials (other than a vocational credential) are analyzed. Teachers with additional industrial arts credentials are more prevalent in the high schools; teachers with additional general education credentials are more prevalent in the junior colleges; and teachers with additional supervisory and administrative credentials are more prevalent in the correctional institutions. It is evident that teachers acquire those additional credentials in reflection of the general purposes and character of the type of institution.

The opportunities and limitations upon professional development also vary with institutional employment. Correctional teachers, with full-year employment, do not have opportunities to gain additional work experience and education during the summer. Even time required to take courses for credentials is more difficult to schedule. Since correctional institutions do not provide the same emphasis for an incentive system with financial and status rewards for increased education, correctional teachers do not advance educationally as much as high school and junior college teachers.

Since no universal model for vocational education is applicable to every type of institution offering vocational training, we recommend that those responsible for policy and decision-making at the administrative levels evaluate the data gathered in this study to determine if the effects of policy are producing the desired outcomes. It may be that the characteristics reported here are unintended and undesired. Where this is the case, policy and its implementation need to be developed or altered.

Careers of Trade and Technical Teachers

Career characteristics. Most trade and technical teachers are in their second careers. They must develop a trade or technical competency and certify their work experience at the journeyman level before they can be credentialed to teach. Hence, the following characteristics contribute to their uniqueness as a group:

> They are older than most other groups of teachers (median of 45.9 years) and they are older when they begin to teach (median of 36.8 years).
>
> They have a median of 13.9 years of work experience prior to teaching.
>
> Eighty-two and one-half percent teach in 19 vocational subject areas and 90 percent are teaching full-time.
>
> Large numbers of recent entrants contribute to the smallness of the median (6.7 years) of teaching experience for the group. Forty percent have taught less than five years and two-thirds have taught less than ten years.

When the incomes of 1,146 full-time junior college and high school teachers were analyzed, the following characteristics were revealed:

> More than half (54.3 percent) earn more than $10,000 a year.
>
> Age, education, membership in organizations, additional responsibilities and junior college employment correlate positively with income. Additional income also increases with salary income.
>
> Work experience does not correlate with income.

Vocational teachers report a median of 1.7 clear credentials per person. The following characteristics are descriptive of 515 teachers with additional credentials in supervision and administration, in industrial arts and in general education:

> Teachers with these three types of additional credentials tend to be married males with more education, with more additional supervisory and administrative responsibilities, more income from regular and additional employment and more organizational memberships than the overall population.
>
> Teachers with additional supervisory and administrative credentials are older, have more work experience and have less education at the start of teaching than the overall population. Correctional teachers have a disproportionately higher percentage of these credentials.
>
> Teachers with additional industrial arts credentials have less work experience, have more education, start teaching earlier and are younger than the overall population. High school teachers have a disproportionately higher percentage of these additional credentials.
>
> Teachers with additional general education credentials have the most education, have less work experience, are older at the start of teaching and are currently older than the overall population. Junior college teachers have a disproportionately higher percentage of these credentials.

Assimilation of trade and technical teachers. California's educational institutions have been calling for more and more trade and technical teachers, but there are numerous indications that the needs and problems peculiar to trade and technical teachers are not always being met. Social scientists have long stressed that change in long-standing institutions comes in a slow and evolutionary pattern. It is not surprising that the educational system has not adapted completely to new vocational goals and the assimilation of a different staff. Therefore, more progress is called for in adaptation and assimilation.

A career in education, for a person who has developed a trade or technical competence, means a transition into another world. The conditions for success in the world of work differs from the conditions for success in the world of education. It is this difference that creates problems for the trade and technical teacher.

The unique problem of assimilating the trade and technical teacher stems from the fact that he obtained his distinctive competence on the job instead of in school. But strange as it may seem, this uniqueness is at once an asset and a liability. His vocational knowledge and skill provide him with the opportunity to enter the professional world of education. But, this vocational background also "tags" him for lower social and professional ranking.

When the vocational teacher begins his new career, he often finds that he is not fully accepted as an equal among the faculty. In the world of work he is respected and esteemed for his trade and technical competency, but in the world of education he frequently discovers that these competencies are not as highly valued. Although he enters the world of the professional, he frequently discovers that his status is tied to the vocational world from which he comes, the occupation he teaches, the tools and equipment which fill his shop and the calibre of the students who are often shunted into his classes. The social status of the sub-professional world of work remains with him and that status is forever evident. In brief, in the educational setting he takes on some of the characteristics of the "marginal man" of sociological theory.

When a teacher is recruited for trade and technical teaching, the requirements of trade experience lead him to believe that this experience is important. But he soon discovers that updating his work experience provides no "points" on the salary schedule. Even though he needs to keep up to date in his trade competency to succeed in the instruction of competent graduates, he often finds it difficult and expensive to gain these competencies through in-service training. It is true that he goes to work in industry during the summer and earns a wage; but school systems do not consider this type of work experience as in-service training for professional advancement, and it is not recognized on his salary schedule.

What does count in the educational establishment is formal education. The vocational teacher, however, usually starts with a handicap in this "game," because he enters the teaching profession at a lower level of academic achievement. (While he was developing a trade or technical competency, his academic colleagues were establishing their educational foundations, jumping the academic hurdles of their educational degrees and gaining seniority in the educational system.) When he begins to make up the lost ground, he sometimes finds that many courses he has taken do not apply toward degrees.

But the trade and technical teacher is a socially mobile individual, as his move from the sub-professional vocational world to the professional world of education indicates. If it takes more education to succeed, he is usually willing to make up the educational "deficiencies" which stigmatize him.

Of course, the degree of acceptance by schools, groups and individuals varies considerably. Vocational teachers usually report that the situation is improving, but the problems are still wide-spread. However, it would appear to us that structural changes to enhance recognition of trade and technical competencies obtained prior to teaching and through in-service training are necessary in the institutional adaptation to vocational goals.

Institutional adaptation. The distinctive character of the trade and technical teaching force and its problems of assimilation into the educational establishment call for institutional adaptation. The wise administrator understands that the distinctively different type of teacher recruitment necessary for trade and technical programs introduces into an institution distinctively different types of behavior and values, and that unless some adaptations are made for the assimilation and acceptance of the new group, contending interest groups will bid for dominant influence in the institution. The institutional climate resulting from contending faculty sub-cultures is rarely conducive to good education. For these and other reasons, attention should be given to the assimilation of vocational teachers in general, and trade and technical teachers in particular.

The affirmation of professional status for trade and technical teachers, communicated through administrative behavior (other than constant verbal affirmation), is of primary importance wherever persistent feelings of inferiority prevail. The human personality needs to be reassured constantly about its acceptance in the social structure of any institution. A status ranking that is similarly valued by both the person and those around him reinforce his self esteem.

Secondly, work experience needs to be recognized as the distinctive and valued contribution of trade and technical teachers to education. The incentive structure of the school or district should provide evidence of this recognition in the form of rewards for gaining up-to-date work experience. Acceptable work experience through in-service training should be offered, encouraged and rewarded.

Thirdly, the cooptation of trade and technical teachers into the administrative structures which include teachers is encouraged. Right or wrong, vocational teachers surveyed in the Profiles Study did not feel that they were being included in administrative committees on a par with academic teachers. The most popular suggestion for building better relationships with their academic colleagues was to encourage the inclusion of both vocational and academic teachers in administrative committees. An equal share in the decision-making processes is the expressed desire of trade and technical teachers.

Lastly, any activities which would bring academic and vocational teachers together to enrich communications through primary relationships would undoubtedly be of value. Numerous indications in the Profiles Study revealed that trade and technical teachers are ready and anxious to build better relationships with their academic colleagues. For example, they already belong to more professional organizations for general education than organizations for vocational education. For this reason we would encourage attempts to bring together academic teachers with vocational teachers wherever feasible in classroom instruction to establish communication, disseminate information, eradicate estrangement, build social cohesion, enhance the status of all teachers and enrich the programs of comprehensive education.

The infusion of trade and technical teachers into the educational institutions of California calls for administrative leadership. This leadership can be provided by affirming the status of trade and technical teachers, incorporating work experience into their incentive structures, coopting them into administrative committees and enriching communication through primary relationships. To make the most of the distinctive competence of the trade and technical teachers, administrative leadership must devote some of its energy toward their assimilation.

Most trade and technical teachers are in their second careers. In their move from the world of work to the world of education, both teachers and schools are confronted with problems of assimilation and adaptation.

The teacher soon discovers that the value system of rewards in the school differs from the value system on the job. Although his attempts to succeed in the school setting vary from teacher to teacher, he too often suffers from some of the characteristics of the "marginal man" of sociological theory.

But the unique characteristics of this rapidly growing contingent of trade and technical teachers also call for reciprocal adjustment by the schools. We believe that good administrative leadership can accent the contributions of the trade and technical teachers and lift the educational community to new heights of cooperation.

Education of Trade and Technical Teachers

The educational profile reflects the following characteristics:

> Recent entrants have markedly more education than recent entrants in previous surveys. More than a third (35.4 percent) of the trade and technical teachers entering since 1962 have a bachelor, master or doctoral degree.
>
> Considerable upgrading is taking place while teaching.
>
> The educationally mobile group is entering teaching earlier and with less work experience than the educationally stable.
>
> The educationally mobile are currently older, assume more school-related responsibilities and join more organizations than the educationally stable.

The educational profile of the trade and technical teacher is changing rapidly. Periodic studies of recent entrants indicate a strong trend toward more education. Furthermore, considerable upgrading takes place while teaching. These two factors -- new teachers with more education and upgrading while teaching -- have significantly changed the educational sophistication of the total population of trade and technical teachers. The value placed upon education within the society, the higher standards for credentials and the pressures for more education within public institutions are undoubtedly contributing factors.

We have now come to the place where the trade and technical teacher needs both a vocational competence and a formal education. At the present time, it appears that the trade and technical teaching force can prepare for and respond to the pressures for more education without a significant drop in years of work experience. In the present trade and technical teacher population, work experience correlates negatively with education. There probably will be a reduction in work experience for the total population in the future, when those with considerable work experience are replaced by younger men with less work experience and more education. But it remains to be seen whether the minimum standards for work experience can be maintained as the demands for more education increase. The educational establishment will have to reappraise its policies and standards in relation to the needed quantity and quality of its vocational teaching force in the coming years. Close attention should be paid to these variables.

Environment for Trade and Technical Education

School environment. The school arena dominates the environmental concerns of trade and technical teachers. This arena has an immediate and direct relationship to their careers and they are immersed daily in the events and personalities of the teaching profession. Their perceptions emphasize the following dominant concerns:

> Teachers want to "enjoy a philosophy of administration which supports vocational education" more than anything else. They would like to see more administrators brought into the activities of vocational education.
>
> The second strongest concern is to "enjoy" a status in which vocational teachers are equal to academic teachers. They prefer to work toward a better relationship with academic teachers through extra-classroom contacts rather than through sharing classroom situations.
>
> Teachers want salary schedules and professional advancement related to the criteria of trade and technical competence rather than limited to solely academic evaluations.

> Vocational counseling services for students are described as inadequate because of the training, background and frequent bias of guidance personnel. Vocational teachers feel that this calls for the reorientation of academically-oriented counselors and the training of teachers for counseling.
>
> To graduate vocationally competent students, teachers feel they must have students who are able to do the work and have good academic backgrounds.
>
> They desire a good vocational orientation for both academic and vocational students.
>
> They are concerned about students who "hire out" before they gain the necessary training for needed competencies.
>
> They are concerned that the number of students is often not limited by available classroom space.

Community environment. When discussion topics are utilized as indices of concern about the community environment, they indicate that teachers are concerned about those matters which appear to have an immediate and direct relationship to their personal teaching situation. For example, they discuss more frequently ways in which changing technology, job markets, employer policies and the economic situation affect their teaching situations than they discuss the influence of the international situation on the local vocational scene.

The mutual dependency of vocational education and industrial employment for graduates appears to be the basis for teachers' close identification with industry and their expressed desire for closer liaison with the companies whose personnel needs they serve. The desire for an even closer relationship is indicated by their following prescriptions:

> Desire to "tailor vocational courses to meet the demands of industry."
>
> Desire to increase the use of advisory committees.
>
> Desire to keep up to date by maintaining an exposure to trade and technical development.

Teachers also think that industry can partially meet its responsibilities by providing scholarships for students and in-service training for teachers.

Lack of public information about vocational education is thought to be the heart of problems in the community environment. Parental resistance to vocational education resulting from lack of knowledge is seen as the basis of many problems with students. The high degree of teacher participation in professional organizations and the desire for credit for improving vocational competencies through in-service training may explain the suggestion of teachers "to encourage professional associations to work for the awarding of credit for the in-service training of teachers."

Institutional differences in environmental perceptions. Correctional teachers vary the most from the overall population in their perceptions of the environment, and junior college teachers vary the least. Junior college teachers have no mean scores which differ from the overall means at the 1 percent level. The differing perceptions of high school teachers are as follows:

> They are more concerned about their salary differentials with their counterparts in industry.
>
> They describe less activity in the high school with advisory committees, with vocational counseling by teachers, in combining vocational and

> academic teachers in administrative committees, in bringing administrators into vocational education and in replacing equipment.

When correctional teachers report their perceptions of the environment they differ as follows:

> They have a stronger vocational orientation in their prescriptions for students, including the vocational applications of academic education.
>
> They prescribe more courses for teachers to meet the academic requirements for professional advancement and greater emphasis on encouraging the interests of technical societies in schools.
>
> Their descriptive scores indicate less activity in teacher recruitment, in program development and articulation, in bringing administrators into the area of vocational education, in relating vocational education to the community environment, and in social, teaching and administrative relationships with other teachers.

Indices of marginality. This study provides a status report of the perceptions of trade and technical teachers about their environment. The most pressing concerns that teachers have about their school environment are typical of people who have not been completely assimilated. Their concerns for an administrative philosophy that supports comprehensive education, equal status with academic teachers, counselors who are trained to do vocational counseling and a "square deal" for capable students, are all indices of marginality. The marginality of these vocational teachers is not surprising since they are part of a movement that is changing the very character of the educational establishment. Adaptation of long-standing organizations to different programs and assimilation of new ideologies and personnel takes time!

Our technological age has been altering nearly all types of institutions, including education. Our schools have partially accepted the task of preparing an army of skilled technicians and experts. The new emphasis on technologies has stressed the expert over the cultivated man, the specialist over the generalist and the scientist above the humanist. The effect of the technological advance has been to increase the importance of the technician and with this to increase the commitment of education to technical education. In the adaptation of educational institutions to the needs of the emerging technological society, the balance within education calls for adjustment. Trade and technical teachers are a part of this dynamic adjustment and until the adaptation and assimilation is made to their inclusion as peers in a comprehensive program of education they will continue to feel their marginality.

Countervailing pressures and increased security. It is our expectation that vocational emphases will continue to be in contention with other traditional emphases among the administrative ideologies but the trend is definitely toward increased security for the vocational educator. Strong societal pressures will continue to assert themselves in the educational area toward increased emphasis on the training of technicians. As a consequence, the administrative philosophies will increasingly adapt themselves to accommodate the vocational emphases and improve the climate for vocational education. The adaptation of organizational structures and the assimilation of vocational teachers will undoubtedly improve as vocationalism becomes embodied in administrative ideologies.

As the educational institutions develop more vocational programs, the administrative personnel with vocational backgrounds and training will also increase and will play a vital role in the creation and protection of vocational values. The addition of vocational elites within the educational hierarchy will provide a greater voice and increased authority for vocational interests. The establishment of additional positions at the supervisory and administrative levels for vocational educators provides an infusion of value for vocational education where it can be most influential. As additional elite positions are established, the vocational teachers undoubtedly will feel greater acceptance.

The continued recruitment of vocational teachers will increase the social base of vocational education in the group structure of the educational enterprise. This increased recruitment to meet the needs of expanding programs will undoubtedly develop an expanded social base to enhance the status of the vocational teacher. Vocational policy needs such a social base, a source of more than formal support, as a center from which influence may radiate and as a training ground for loyal adherents.

For such reasons as these we feel that the adaptation of vocational programs and the assimilation of vocational personnel will increasingly improve the status of the vocational teacher. The pressures of the technological age will not diminish. Greater accommodation of the educational enterprise to vocational emphases is inevitable. Much progress has already been made. Much more progress is in sight.

The vocational subculture within the educational establishment is highly sensitive to the community environment. The data from this study indicate that those industrial centers in the community environment that have immediate and direct relationship to vocational teaching problems are of focal concern. There is every desire to gear training programs to the needs of industry and to develop stronger ties relating vocational education to the industrial establishment. Because of mutual dependencies, it is our expectation that an even stronger liaison will develop. The extent of the liaison will be circumscribed by the constraints placed upon vocational education to meet the wide range of industrial training needs. But at the present time the growing ascendency of the vocational subculture over the academic already is pronounced in many junior colleges.

Although the struggle between the academic and the vocational, the fundamental and the applied, shows increasing favor for the vocational emphases, students and their parents still favor the programs of the four-year institutions. Since trade and technical teachers train their students as tradesmen, technicians and semi-professionals who require only a high school or junior college education, parents and students often bypass these technical and semi-professional levels in an effort to gain training for occupational fields of higher status which require four-year and postgraduate training, regardless of the student's ability to benefit from such training. Because these aspirations are often unrealistic, they not only represent a loss of support for trade and technical programs, but a loss for the students as well.

These two forces in the community environment -- the occupational needs of industry to develop trade and technical education, and the desire of students and their parents to bypass the terminal vocational programs -- are two persistent factors which are not destined to relax their influence. The needs of the industrial world are linked to powerful economic forces and the motivations of the student clientele are linked to the equally powerful social forces of class and status. The resolution of the occupational needs takes place in the market place for trained technicians, and the resolution of the social forces occurs in a multitude of individual life-adjustment processes. We expect that the world of work will continue to bring pressure upon the educational establishment and that the ties between industry and education in the vocational sector will become stronger. We expect that larger numbers of students will need vocational training and that educators will increasingly concentrate on the problems of career guidance. However, trade and technical teachers will continue to live with the problems of social class and status.

Organizational Affiliations

Trade and technical teachers are active in organizations. Ninety-eight percent of the teachers report membership in one or more organizations and they have a median of 5.6 memberships per teacher. It is evident that they participate in the organizational activities of contemporary society. Analysis of their organizational memberships provides the following characterizations:

> Memberships of trade and technical teachers are predominantly related to the teaching profession.
>
> The percentage of membership in general teacher organizations is larger than the percentage in vocational teacher organizations.
>
> Higher percentages of "joiners" have academic degrees, assume more additional school-related responsibilities, are employed by junior colleges and teach in large towns and cities.
>
> Higher percentages of "non-joiners" are employed by correctional institutions and have Catholic religious affiliation. Lower percentages have academic degrees, teach in large towns and have Protestant religious affiliation.
>
> Memberships in organizations are also found to increase with age, salary and additional credentials.

We feel that it is highly significant that vocational teachers participate so fully in the organizational responsibilities of their profession. It is also revealing that memberships in organizations related to vocational education run second to affiliation with organizations with an inclusive membership. This would indicate that charges of exclusiveness cannot be founded on organization membership, even though there is often a "wall of separation" between vocational and academic teachers. However, we suspect that pressures by the school system to join some non-vocational organizations account for more memberships than would be the case with free choice.

Organizations at the local and state level have greater access to the teachers and can more easily provide communal functions (satisfactory personal relationships). The more distant the organization, the more it must rely on instrumental values (services rendered) and leadership in local associations for recruitment and participation. For these reasons, local organizations have the greatest number of memberships and national organizations the fewest. We suspect that the marginality of the trade and technical teacher has "pushed" him into associations with his vocational colleagues to provide the instrumental services which advance his "cause" and the communal relationships that cannot always be satisfied in academic settings. We would expect to find greater activity and participation by vocational teachers in vocational organizations wherever and whenever the marginality of trade and technical teachers is emphasized. However, this hypothesis is not proved in the data of this study.

Memberships in professional organizations are placed high on the list of activities most helpful in "seeking to improve professional status." A number of variables indicate that this may actually be the case. For example, memberships in organizations are associated with increases in income, additional school-related responsibilities, more academic degrees and additional credentials. Membership in organizations is one of several factors in the constellation of variables related to the popular image of "improved professional status."

The institutional factor influences the pattern and frequency of organizational membership. Different organizational employment reflects variations within the trade and technical teacher population. Although the appeal of some of the organizations is obviously directed to specific groups of teachers, many motivating factors related to organizational preferences remain hidden. We expect increased heterogeneity of trade and technical teachers, through institutional and other differences, to increase the variety and patterns of organizational affiliation. Conversely, increased homogeneity in this group of teachers makes for similar patterns of organizational affiliation. Therefore, the future characteristics of memberships will be dependent upon the degree of similarity in the teacher force and the presence of divisive factors.

Trade and Technical Teacher Training

Trade and technical teachers have definite feelings and explicit suggestions that pertain to their training. A high level of concurrence on prescriptions for teacher training, regardless of type of institutional employment (junior college, high school or correctional), is evident in the study. This report divides these suggestions into pre-service and in-service training.

Pre-service suggestions.

When teachers need training to make the transition from their careers in the world of work to their careers in education, their utmost concern is for practical help in actual instruction. Therefore, they desire their training to emphasize the following:

Demonstrations by master teachers

Practice in actual instruction

Methods and techniques related to their subject areas

Lesson planning

Curriculum development

Furthermore, they want to know where they can find help with actual instructional problems at the local level when they begin to teach.

The teachers are also concerned about the financial stress during the transitional period. They feel that help at this point should come from two sources which benefit from the product of their training -- industry and government.

In-service suggestions. The interest in and desire for in-service training programs is unmistakable. Sixteen mean scores above the 4.00 level in the PDQ emphasize the following seven areas of major concern:

> The major purpose of in-service training is to update knowledge and skills by maintaining exposure to latest developments.
>
> Workshops and seminars for specific subject areas should be provided.
>
> Sound methods of instruction should be taught and demonstrated.
>
> Industrial organizations and institutions of higher education should sponsor in-service training programs.
>
> Credit should be provided on the salary schedules of school districts for in-service training.
>
> Training for vocational counseling should be provided for counselors and teachers.
>
> Central responsibility, direction, coordination and communication should be established for in-service training programs.

Satisfactions and problems. A survey of satisfactions in teaching reveals that trade and technical teachers are most satisfied with the following:

> Their abilities and methodologies of teaching their own subject areas
>
> Normal personal relationships with pupils in class management activities
>
> Teaching pupils to establish friendly relationships with other pupils

However, they are less satisfied in helping students solve individual needs and problems with personal relationships, study habits and school regulations.

A survey of problems in teaching reveals that the most problem-laden activities involve the following:

> Obtaining and maintaining supplies and equipment and living with the paperwork involved
>
> Securing sufficient space
>
> Grading students

Emphasis on the practical. Trade and technical teachers "worship" practicality with a vengence. They came from practical careers in industry; they teach practical subjects; they train their students for practical vocations; and they desire to teach in a practical manner. Therefore, it is not surprising that these vocational teachers favor practical applications in their training. They feel the need for it when they change their careers from the world of work to the world of education; they measure their satisfactions and dissatisfactions by their competencies in practical instruction; they desire practical applications in in-service training. From the point of view of these vocational teachers, it is obvious that the key to pleasing them is to evaluate every facet of teacher training in terms of its practical applications. If they can see this, they "buy" it; if not, they are reluctant.

This, of course, raises the question of what is the most practical training. This study only indicates the teachers' perceptions of what is practical. Any change in these perceptions involves a thoughtful plan of explanation and motivation. Any innovation in training cannot escape the criterion of practicality.

In other areas of classroom instruction, these vocational teachers appear quite "normal" and typical. They feel a great deal of satisfaction in teaching their subject matter and in normal personal relationships with students. They are bothered by such common problems as grading and space.

Need for in-service training. Since the interest in and the desire for in-service training programs for trade and technical teachers is unmistakable, more training programs should be provided. It is common knowledge that many vocational areas are in rapid change and this need expressed by the teachers is based on reality. A carefully studied approach to in-service training should be the responsibility of a specially designated agency equipped with the personnel and the resources to develop and expedite programs and maintain a data bank of current information on all trade and technical teachers for decision-making and communication.

The development of in-service programs for teachers is related to the larger problem of contacting and "cultivating" the trade and technical teacher force. Many indications of isolation and social distance from teacher training institutions were observed by the interviewers in the course of the research. Often the lack of knowledge, misunderstandings and misinterpretations of ongoing events make for problems. A breakdown of the community of trade and technical teachers is occurring due to lack of communication among them after pre-service training, and as a result of the rapid growth of this teaching force. In-service training would go far toward rebuilding this community, but would be only one facet of a larger program.

Further Research

In the process of collecting data for this study, it became apparent that a number of significant studies could be undertaken to expand the body of knowledge about trade and technical education. The following are a few:

Career Guidance
1. Life-adjustment problems of students with unrealistic vocational aspirations.
2. Methods of career guidance for students with unrealistic vocational aspirations.
3. Methods and programs for disseminating occupational information.

Community
1. Characteristics and problems of trade and technical education in small communities.
2. Descriptions of community images and status of trade and technical occupations.

Industrial Relationships
1. Descriptions of industry-education relationships in major trade and technical teacher subject areas.
2. Assessment of areas for development of mutual interests of trade and technical educators with industry.

Institutional Groups

1. Characteristics of trade and technical programs in new and emerging types of institutions.
2. Descriptions of distinctive vocational policies and functions by type of vocational school.
3. Evaluation of vocational programs based on differing institutional policies and objectives.

Leadership Development

1. Characteristics of upwardly mobile teachers.
2. Relationship and background of current administrators to vocational education.
3. Images of "success."

Organizations

1. Functional relationships of teachers to vocational organizations.

Teacher Perceptions

1. Replication of perceptual surveys in this study with other administrative and faculty subcultures.
2. Comparative studies of specific problems. (e.g., status and image.)

Teacher Problems

1. Role studies of trade and technical teachers.
2. Distinctive needs and problems of correctional trade and technical teachers.
3. Characteristics and problems of teacher "drop-outs."

Teacher Profiles

1. Profiles of other vocational teachers.
2. National profile of trade and technical teachers.
3. Profile of non-vocationally credentialed vocational teachers.
4. Profiles of recent entrants.

Teacher Recruitment

1. Patterns of trade and technical teacher recruitment.
2. Comparative research of trade and technical teachers with their counterparts in industry.
3. Transitional problem of new trade and technical teachers.

Teacher Training

1. National characteristics of trade and technical teacher training.
2. Evaluations of specific teacher training methods.

APPENDICES

APPENDIX I

ADDITIONAL DESCRIPTIONS

APPENDIX I

ADDITIONAL DESCRIPTIONS

Many of the variables reported in Appendix I are utilized in the analysis in the body of the Profiles Study even though general descriptions of these factors are not included. The general descriptions of marital status, sex, age and the community and county distributions are reported below.

General Descriptions

Marital status and sex. The sample of 1,587 persons teaching during the school year 1966-1967 in California indicates that 72.9 percent are men and 27.1 percent, women. Table 2-6 indicates that 95.5 percent of the men and 61.4 percent of the women are married, 1.8 percent of the men and 17.0 percent of the women were never married and 2.7 percent of the men and 21.6 percent of the women are separated, divorced or widowed.

Age. Trade and technical teachers tend to be older than teachers in general. (Their current median age is 45.9 years.) Table I-1 indicates that their current age ranges from under 25 to over 60, with a median age of 45.9 years. They also tend to start teaching later, at a median age of 36.8 years. Some of the factors which relate to the older ages were explored above.

Religion. The religious affiliation of teachers indicates a larger number of Protestants (65.0 percent) than Catholic (19.1 percent), Jewish (2.8 percent) and other faiths (6.3 percent). (See Table I-2.)

TABLE I-1

AGE OF TEACHERS

Years	Age at Start of Teaching*		Current Age**	
	Number	Percentage	Number	Percentage
Under 25	102	6.4	20	1.3
25 - 29	242	15.2	50	3.2
30 - 34	319	20.1	130	8.2
35 - 39	357	22.5	245	15.4
40 - 44	302	19.0	286	18.0
45 - 49	173	10.9	345	21.7
50 - 54	68	4.3	283	17.8
55 - 59	18	1.1	146	9.2
60 and over	..	..	75	4.7
No answer	6	.4	7	.4
Totals	1,587	99.9	1,587	99.9

* The median age at start of teaching is 36.8 years.

** The median current age is 45.9 years.

TABLE I-2

RELIGIOUS AFFILIATION OF TEACHERS

Religious Affiliation	Number	Percentage
Catholic	303	19.1
Jewish	45	2.8
Protestant	1,032	65.0
Other	100	6.3
None	90	5.7
No answer	17	1.1
Totals	1,587	100.0

The Catholic faith is under-represented (19.1 percent versus 25.7 percent) and the "other" faiths are over-represented (6.3 percent versus 1.3 percent) when this teacher population is compared with the national population.[1] The group that varies most from the overall population is the Jews. They begin teaching with more education (10.5 percent more bachelor, master and doctoral degrees) and retain a higher level while teaching. A lower percentage (15.6 percent versus 26.9 percent) comes from small towns and a higher percentage comes from suburbs (18.0 percent versus 13.0 percent). They are slightly below the overall population in their percentages of additional school-related employment but have twice as much additional non-school-related employment.

Protestants have higher percentages of organizational membership and Catholics have lower percentages of membership than the overall population. This is a very pronounced trend when "joiners" and "non-joiners" are studied. Jews have lower percentages of national and state organizational affiliation when compared with the overall population and they have a unique pattern of local affiliations. (A more complete discussion of the religious factor in organizational affiliation is provided in Chapter IV.)

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[1] The Statistical Abstract of the United States reports the following percentages of religious affiliation: Protestants, 66.2 percent; Catholic, 25.7 percent; Jew, 3.2 percent; other, 1.3 percent; none, 2.7 percent; and not reported, .9 percent. U. S. Bureau of the Census and the U. S. Department of Commerce, Statistical Abstract of the United States (Washington: Government Printing Office, 1965), p. 40.

Community. Over half (55.3 percent) of the teachers are employed in large towns and cities which range in population from 50,000 to more than 500,000. (See Table I-3.) Another 13.0 percent are teaching in suburbs of less than 50,000 people. Approximately one quarter (25.9 percent) indicate that they are teaching in small independent towns which are not a part of a metropolitan area.

The type of community varies significantly by type of institutional employment. For example, a distinctively different type of community comes in mind when 69.5 percent of the correctional teachers report that they teach in small independent towns. (See Table 1-10.) In sharp contrast to the small community setting of the correctional teacher is the setting of the junior college teacher. Junior colleges tend to be situated in large population centers and therefore to reflect the metropolitan influence. High school teachers reflect a more even distribution between small towns, suburbs and large cities, but nevertheless they work primarily in metropolitan areas.

The types of additional employment of teachers also varies with community setting. The percentage of additional supervisory or administrative responsibilities is lowest in school systems of the large towns and cities (13.7 percent), larger in the small towns (16.3 percent) and largest in the suburbs (21.7 percent). However, teachers from the large towns and cities have a higher percentage (14.6 percent) of other school jobs than suburban teachers (11.6 percent) and small town teachers (11.0 percent). They also report more non-school employment (12.7 percent) than suburban teachers (9.7 percent) and small town teachers (7.8 percent).

TABLE I-3

TYPE OF SCHOOL COMMUNITY OF TEACHERS

Type of Community	Number		Percentage	
Small independent town: (not part of a metropolis)				
Less than 2,500	42		2.6	
2,500 - 9,999	103		6.5	
10,000 - 49,999	266		16.8	
Subtotal		411		25.9
Suburb: (part of a metropolis)				
Less than 2,500	7		.4	
2,500 - 9,999	29		1.8	
10,000 - 49,999	171		10.8	
Subtotal		207		13.0
Large town and cities:				
50,000 - 99,999	240		15.1	
100,000 - 499,999	286		18.0	
500,000 or more	351		22.1	
Subtotal		877		55.2
No answer		92		5.8
Totals		1,587		99.9

County distributions. The vocational teachers who responded to this survey teach in 40 of the 58 counties of California. (See Table I-4.) Approximately one out of three teaches in Los Angeles County. The largest groups tend to cluster around the San Francisco Bay region and the Los Angeles - San Diego area. Three-fifths (59.5 percent) of all trade and technical teachers in California are located below a line described by the northern boundaries of San Luis Obispo, Kern and San Bernardino counties. (See Figure 1.)

TABLE I-4

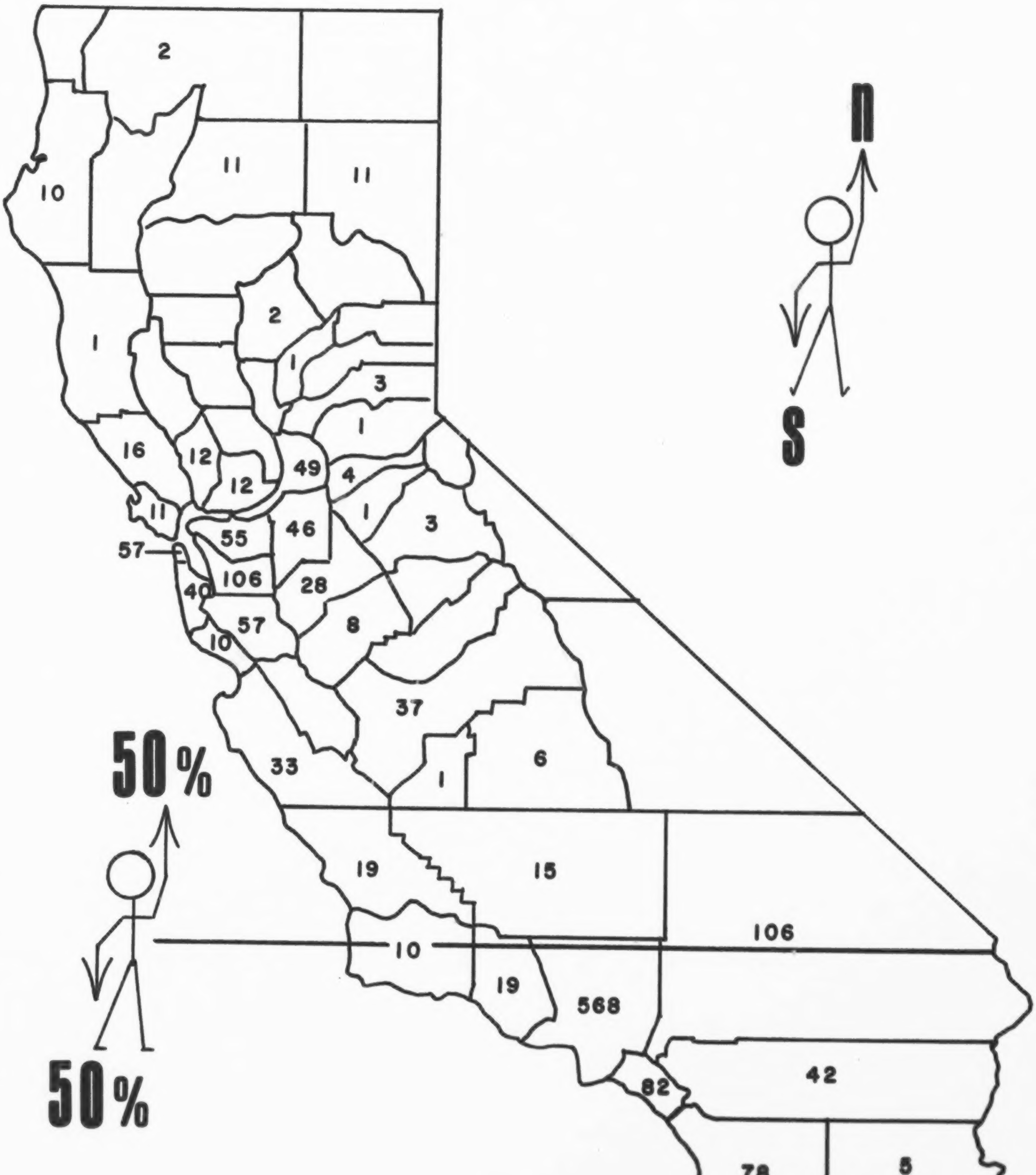
COUNTY DISTRIBUTION OF TEACHERS

County	Number	Percentage
Alameda	106	6.7
Amador	4	.3
Butte	2	.1
Calaveras	1	.1
Contra Costa	55	3.5
Fresno	37	2.3
El Dorado	1	.1
Humboldt	10	.6
Imperial	5	.3
Kern	15	.9
Kings	1	.1
Lassen	11	.7
Los Angeles	568	35.8
Marin	11	.7
Mendocino	1	.1
Merced	8	.5
Monterey	33	2.1
Napa	12	.8
Orange	82	5.2
Placer	3	.2
Riverside	42	2.6
Sacramento	49	3.1
San Bernardino	106	6.7
San Diego	78	4.9
San Francisco	57	3.6
San Joaquin	46	2.9
San Luis Obispo	19	1.2
San Mateo	40	2.5
Santa Barbara	10	.6
Santa Clara	57	3.6
Santa Cruz	10	.6
Shasta	11	.7
Siskiyou	2	.1
Solano	12	.8
Sonoma	16	1.0
Stanislaus	28	1.8
Tulare	6	.4
Tuolumne	3	.2
Ventura	19	1.1
Yuba	1	.1
*California State Polytechnic College	9	.6
Totals	1,587	100.2

* This is listed independently in the county code list of the State Department of Education.

FIGURE 1

COUNTY DISTRIBUTION OF TEACHERS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57
106
28
40
57
8
10
37
50%
33
1
6
19
15
10
106
19
568
50%
82
42
78
5

APPENDIX II

ADDITIONAL STATISTICAL INFORMATION

(This appendix contains additional statistical information gathered in the process of the research but not utilized in the body of the Profiles Study.)

TABLE II-1

DISTRIBUTION OF MEMBERSHIPS IN LOCAL ORGANIZATIONS

Type of Local Organization	Number of Memberships											
	0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%
Professional educational	587	37.0	913	57.5	65	4.1	18	1.1	3	.2	1	.1
Trade and professional	932	58.7	460	29.0	147	9.3	34	2.1	11	.7	3	.2
Educational and cultural	1088	68.6	466	29.4	27	1.7	6	.3	..	..	..	..
Religious	1148	72.3	412	26.0	24	1.5	2	.1	1	.1	..	..
Recreational	1217	76.7	321	20.2	34	2.1	13	.8	1	.1	1	.1
Service	1247	78.5	293	18.5	38	2.4	8	.5	..	..	1	.1
Youth and children's sponsor	1294	81.5	263	16.6	27	1.7	2	.1	1	.1	..	..
Fraternities and sororities	1298	81.8	236	14.9	39	2.5	10	.6	3	.2	1	.1
Labor	1338	84.3	233	14.7	13	.8	2	.1	..	..	1	.1
Civic and political . . .	1353	85.2	200	12.6	29	1.8	4	.3	..	..	1	.1
Military and veteran . . .	1393	87.8	182	11.5	10	.6	2	.1	..	..	..	..
Other	1430	90.0	137	8.6	12	.8	6	.4	1	.1	1	.1

TABLE II-2

YEARS OF FULL-TIME TEACHING EXPERIENCE OF TEACHERS BY TYPE OF INSTITUTION

Number of Years	Public Schools			Adult Education			Private	Commercial	Industry	Government (Military)	Government (Other)	Others
	Elementary	Secondary	Junior College	High School	College	University Extension						
1 - 4 . . .	22	259	350	87	133	4	87	18	33	102	72	39
5 - 9 . . .	12	134	198	41	46	1	31	4	13	29	60	17
10 - 14 . . .	2	77	114	20	27	..	6	3	2	6	15	5
15 - 19 . . .	..	34	56	6	15	..	..	..	1	1	3	3
20 - 24 . . .	..	17	12	..	5	..	1	..	2	..	..	..
25 - 29 . . .	1	12	13	2	5	..	..	..	1	..	1	..
30 - 34 . . .	..	1	3	..	..	..	..	..	..	..	..	..
Undesignated	2	2	1	2	..	1	..	..	..	..	4	4

TABLE II-3

PRINCIPAL COURSES TAUGHT BY TEACHERS IN THE COURSE TITLE CODE*

Code	Course Title	Number
005	Acetylene Welding (Welders) . . .	2
007	Aero Space Technology	4
010	Air Conditioning and Refrigeration .	14
015	Aircraft and Engine Mechanics . .	15
035	Aircraft Engine Mechanics (Aircraft Power Plant)	9
060	Aircraft Mechanics	12
062	Aircraft Navigation	2
070	Aircraft Sheet Metal	1
075	Aircraft Welding	1
080	Arc and Acetylene Welding	11
085	Arc Welding	1
090	Architectural Drafting	28
092	Architectural Landscaping	20
093	Asbestos Workers	20
110	Auto Machine Shop	11
112	Automation Transmissions	4
115	Auto Mechanics	125
116	Auto Mechanics (Service Station Operation)	7
120	Auto Motor Tune-up	2
130	Auto Parts	1
135	Auto Wheel Alignment and Brakes . .	1
140	Baking	14
160	Bricklaying and Masonry	5
162	Building Construction	8
163	Building Estimating	1

*Respondents identified "the one course title" which best described the course(s) they taught in the Course Title Code of the Bureau of Industrial Education.

TABLE II-3 (continued)

Code	Course Title	Number
180	Carpentry	22
185	Carpentry and Mill Cabinet	16
216	Civil Technology	4
220	Cleaning and Dyeing	11
225	Commercial Art	9
230	Commercial Art (Background Design and Display)	1
231	Commercial Art (Figure Illustrating)	1
236	Commercial Art (Technical Illustrating)	5
239	Computers, Electronic	5
240	Cooking	14
245	Cooking and Baking	9
250	Cosmetology	78
255	Costume Design	3
260	Dental Assisting	44
263	Dental Hygienist	4
265	Dental Mechanics	3
270	Diesel Mechanics	9
275	Drafting	36
280	Drafting (Isogonic)	1
281	Drafting (Mechanical)	42
285	Dressmaking	3
286	Dressmaking and Design	8
295	Dressmaking (Pattern Making)	1
315	Electric Construction	3
325	Electricity	14
350	Electric Motor Repair	1
362	Electronics	145
366	Engineering Aid	4
367	Engines - Small Gas	1
380	Fire Fighting	4
395	Foremanship (Conference Leader Training)	1
400	Forestry and Lumbering	6
402	Furniture Making & Refinishing	2
415	Gunsmithing	1

TABLE II-3 (continued)

Code	Course Title	Number
420	Heating and Ventilating	1
422	Heavy Duty Equipment Repair	1
423	Heliarc Welding (Inert Gas Welding)	1
424	Home Health Aid	8
425	Hospital Attendants	4
435	Hotel Management	2
440	Household Service	1
445	Industrial Maintenance	2
450	Inhalation Therapy	2
460	Janitor Engineering	8
482	Machine Control Systems	1
485	Machine Shop	79
490	Machine Shop (Blueprint Reading and Math)	7
495	Machine Shop (Jig & Fixture)	3
497	Machine Shop (Machinery Maintenance)	1
525	Meatcutting	6
526	Mechanics (Basic) Technology	1
527	Medical Assistants	21
530	Metallurgy	5
540	Mill Cabinet	15
545	Millinery	1
561	Nuclear Energy	1
564	Nursery School Assistants	1
570	Office Machine Repair	6
580	Optical Technician	1
585	Ordinary Seamen	1
587	Orthopedic Technician	1
590	Painting & Decorating	10
605	Pattern Making	2
610	P.B.X. Operation	2
615	Peace Officers Training, Patrol Problems	56

TABLE II-3 (continued)

Code	Course Title	Number
635	Petroleum Processing (Oil Well Production)	1
640	Photography	19
650	Plastering	2
655	Plastics	2
665	Plumbing and Pipefitting	4
672	Plumbing and Pipefitting (Gas Controls)	1
675	Plumbing and Pipefitting (Lead Wiping)	1
680	Power Sewing	13
685	Practical Nursing	224
690	Printing	39
695	Printing (Bindery)	2
705	Printing (Linotype)	1
707	Printing (Offset)	9
710	Printing (Presswork)	2
714	Psychiatric Technicians	4
716	Radio	3
725	Radio Operation & Broadcasting . .	2
735	Radio-Television	16
770	Refrigeration	1
773	Related Instruction for Apprentices.	2
775	Restaurant Management	6
785	Sheet Metal	16
815	Shoemaking and Repair	7
820	Sign & Pictorial Painting	1
826	Stagecraft	1
833	Strength of Material (Steel) . . .	1
835	Structural & Ornamental, Metal Work.	2
840	Surveying	2
845	Tailoring (Ladies')	2
854	Technical Report Writing	2
857	Television	1
868	Tool Design	3
875	Trade Mathematics & Science . . .	4
890	Upholstery	7

TABLE II-3 (continued)

Code	Course Title	Number
900	Waitress Training	1
910	Welding Technology	33
912	X-Ray Technology	6
999	Others . . . . (Ornamental Horticulture Food Service Optometric Assistant Stockkeeping & Warehousing Numerical Control Materials Evaluation Vacuum Technology Industrial Supervision Automatic Vending Machine Repair)	13
	No answer	50
	Totals	1,587

APPENDIX III

SURVEY INSTRUMENTS

BASIC DESCRIPTION QUESTIONNAIRE*

TRADE AND TECHNICAL TEACHER STUDY

1. Please CHECK (✓).

Mr. ( )

Mrs. ( )

Miss ( )

1 - 23

Please **PRINT** the following information:

____
First Name

____
Middle Name

____
Last Name

2. ____________________
Street Address 24 - 44

3. ____________________ 45 - 62
City 63 - 65
66x

4. __________ 5. __________ 67 - 71
State **Zip Code**

(Region)
1 - 1
- 2
3

6. ____________________ 2x
County 3 - 4

5x

7. ____________________
School District 6 - 8

9x

8. ____________________
School 10 - 12

- 2 -

13x
Instructional area
14 - 15
16x

9. Check your age group.

Under 25	( )	17 - 1
25 - 29	( )	- 2
30 - 34	( )	- 3
35 - 39	( )	- 4
40 - 44	( )	- 5
45 - 49	( )	- 6
50 - 54	( )	- 7
55 - 59	( )	- 8
60 and over	( )	- 9

10. How old were you when you began to teach? Check the appropriate category.

Under 25	( )	18 - 1
25 - 29	( )	- 2
30 - 34	( )	- 3
35 - 39	( )	- 4
40 - 44	( )	- 5
45 - 49	( )	- 6
50 - 54	( )	- 7
55 - 59	( )	- 8
60 and over	( )	- 9

11. Indicate your sex.

Male	( )	19 - 1
Female	( )	- 2

12. Check your marital status.

Never married	( )	20 - 1
Married	( )	- 2
Separated	( )	- 3
Divorced	( )	- 4
Widowed	( )	- 5

13. Indicate your religious affiliation, if any.

Catholic	( )	21 - 1
Jewish	( )	- 2
Protestant	( )	- 3
Other	( )	- 4
None	( )	- 5

22x

• • •

- 3 -

---

* The Basic Description Questionnaire was administered as a 20 page booklet, 3 3/4 inches by 8½ inches. Two pages are reproduced above and on each of the following nine pages.

BDQ -- (continued)

14. Indicate the years of full-time work experience in the occupation you teach **prior** to entering the field of education .... (   ) 23 - 24

15. Approximate the years of full-time work experience in the occupation you teach **since** you entered the field of education .... (   ) 25 - 26

27x

16. Check the statement which best describes your current teaching situation.

Part-time teacher with:
(a) no other employment .... ( ) 28 - 1
(b) supervision and/or administration responsibilities............................ ( ) - 2
(c) other school employment ..... ( ) - 3
(d) other non-school employment .... ( ) - 4

Full-time teacher with:
(a) no other employment .... ( ) - 5
(b) additional supervision and/or administration responsibilities .... ( ) - 6
(c) other school employment .... ( ) - 7
(d) other non-school employment .... ( ) - 8

Supervisor and/or administrator ..... ( ) - 9

17. Check the type of community in which your school is located.

Small independent town (not part of a metropolis)
Less than 2,500 .... ( ) 29 - 1
2,500 - 9,999 .... ( ) - 2
10,000 - 49,999 .... ( ) - 3

Suburb (part of a metropolis)
Less than 2,500 .... ( ) - 4
2,500 - 9,999 .... ( ) - 5
10,000 - 49,999 .... ( ) - 6

(question 17 continued on page 5)

Large town and cities
50,000 - 99,999 .... ( ) - 7
100,000 - 499,999 .... ( ) - 8
500,000 or more .... ( ) - 9

30x

18. Check the highest level of formal education you have completed prior to teaching.

Eighth grade or less................. ( ) 31 - 1
High school diploma .... ( ) - 2
Junior college courses.............. ( ) - 3
Junior college degree .... ( ) - 4
RN .... ( ) - 5
College or University courses (Do not include university extension or adult education.). .... ( ) - 6
Bachelor degree .... ( ) - 7
Master degree .... ( ) - 8
Doctor degree .... ( ) - 9

19. Check the highest level of formal education you have completed **as of this date.**

Eighth grade or less .... ( ) 32 - 1
High school diploma .... ( ) - 2
Junior college courses .... ( ) - 3
Junior college degree .... ( ) - 4
RN .... ( ) - 5
College or University courses (Do not include university extension or adult education.). .... ( ) - 6
Bachelor degree .... ( ) - 7
Master degree .... ( ) - 8
Doctor degree .... ( ) - 9

20. Are you **planning** more formal education?

No further objectives in formal education .... ( ) 33 - 0
Junior college courses .... ( ) - 1
Junior college degree .... ( ) - 2
College or University courses (adult or extension only) .... ( ) - 3
College or University courses (do not include adult or extension( ) 4
Bachelor degree .... ( ) - 5
Master degree .... ( ) - 6
Doctor degree .... ( ) - 7

21. Are you currently **enrolled** for more formal education education?

No, I am not currently enrolled	( )	34 - 0
Junior college courses	( )	- 1
Junior college degree	( )	- 2
College or University courses (adult or extension only)	( )	- 3
College or University courses (do not include university extension or adult education) ...	( )	- 4
Bachelor degree	( )	- 5
Master degree	( )	- 6
Doctor degree	( )	- 7

22. What is your current annual full-time salary for teaching?

Below - 5,000	( )	35 - 36
Below - 5,000	( )	- 04
5,000 - 5,999	( )	- 05
6,000 - 6,999	( )	- 06
7,000 - 7,999	( )	- 07
8,000 - 8,999	( )	- 08
9,000 - 9,999	( )	- 09
10,000 - 10,999	( )	- 10
11,000 - 11,999	( )	- 11
12,000 - 12,999	( )	- 12
13,000 - 13,999	( )	- 13
14,000 - 14,999	( )	- 14
15,000 or more	( )	- 15

23. What additional income did you receive last year from teaching?

None	( )	37 - 6
Below - 1,000	( )	- 0
1,000 - 1,999	( )	- 1
2,000 - 2,999	( )	- 2
3,000 - 3,999	( )	- 3
4,000 - 4,999	( )	- 4
5,000 or more	( )	- 5

24. What additional income did you receive last year from other sources?

None	( )	38 - 6
Below - 1,000	( )	- 0
1,000 - 1,999	( )	- 1
2,000 - 2,999	( )	- 2
3,000 - 3,999	( )	- 3
4,000 - 4,999	( )	- 4
5,000 or more	( )	- 5

25. Are you a member of any **national** educational organizations? 39x

Adult Education Association of the USA	( )	40
American Industrial Arts Association	( )	41
American Vocational Association	( )	42
National Education Association	( )	43
Other (specify) ____________________	( )	44
		45
____________________		46
		47
		48
		49T

26. Are you a member of any **state** education organizations?

California Council for Adult Education	( )	50
California Industrial Education Association	( )	51
California Junior College Faculty Association	( )	52
California Teachers Association	( )	53
California Vocational Association	( )	54
Other (specify) ____________________	( )	55
		56
____________________		57
		58T

27. Are you a member of any **local** educational organizations? (e.g., faculty associations or shop teachers organizations).

(Specify) ____________________ ( ) 59

____

28. Are you a member of a national **labor** organization?

(Specify) ____________________ 60

____

29. Are you a member of any **trade or professional** organizations other than a labor organization? (e.g., National League of Nursing, American Welding Society, etc.)

(Specify) ____________________ 61

____

30. Are you a member of any **fraternities** or **sororities?** 62

Epsilon Pi Tau .... ( )
Phi Delta Kappa .... ( )
Other (Specify) ______________ ( )

____

____

31. Are you a member of any of the following kinds of groups?

Civic and political action groups 63
(e.g., City Planning Commission, Anti-Smog Committee, Property Owners, Community Welfare Council, Civil Defense ...)

(Specify) ______________

____

Educational and cultural groups 64
(e.g., National Congress of Parents and Teachers, Theater Group ...)

(Specify) ______________

____

Military and Veteran organizations 65
(e.g., U. S. Navy Reserve, American Legion...)

(Specify) ______________

____

Recreational Clubs 66
(e.g., Sportsman Club, Camera Club, Sierra Club, Y.M.C.A. ...)
(Specify) ______________

____

Religious Associations 67
(e.g., Church, Knights of Columbus, Christian Business Men's Club ...)

(Specify) ______________

____

Service Clubs 68
(e.g., Rotary, Lions, Kiwanis, Elks, Masons, Chamber of Commerce ...)

(Specify) ______________

____

Youth and Children's Organizations 69
(Leaders and sponsors)
(e.g., Boy Scouts, Four-H Club, Y.M.C.A. ...)

(Specify) ______________

____

Others 70

(Specify) ______________

____

* * *

BDQ -- (continued)

32. In column 32 check all of the credentials which you hold **clear**.
33. In column 33 check all of the credentials which you hold on **postponement** (partial fulfillment).
34. In column 34 indicate by numbers (1, 2, 3, etc.) which credentials in columns 32 and 33 you acquired 1st, 2nd, 3rd, etc.).
35. In column 35 indicate the credential(s) for which you are currently working.

	32 Clear		33 Postponement		34 Order 1st, 2nd, 3rd	35 Working	
Basic Teaching							
General Elementary	( )	1	( )	35	( )	( )	1
General Secondary	( )	2	( )	36	( )	( )	2
Junior College	( )	3	( )	37	( )	( )	3
Special Secondary Vocational - Class A.	( )	4	( )	38	( )	( )	4
Special Secondary Vocational - Class B.	( )	5	( )	39	( )	( )	5
Special Secondary Vocational - Class D.	( )	6	( )	40	( )	( )	6
Standard Designated Subjects full-time	( )	7	( )	41	( )	( )	7
Standard Designated Subjects part-time	( )	8	( )	42	( )	( )	8
Special Secondary, Industrial Arts	( )	9	( )	43	( )	( )	9
Special Secondary, Limited in Industrial Arts	( )	10	( )	44	( )	( )	10
Special Secondary, Limited, part-time in Industrial Arts	( )	11	( )	45	( )	( )	11
Special Secondary in Nursing Education	( )	12	( )	46	( )	( )	12
Industrial Arts and Occupational Subjects (8.1)	( )	13	( )	47	( )	( )	13
Adult Education	( )	14	( )	48	( )	( )	14
Other (specify) ______	( )	15	( )	49	( )	( )	15
Special Services							
Pupil Personnel	( )	16	( )	50	( )	( )	16
Health and Development	( )	17	( )	51	( )	( )	17
Other (specify) ______	( )	18	( )	52	( )	( )	18
Coordination							
Special Secondary Vocational - Class C-1	( )	19	( )	53	( )	( )	19
Special Secondary Vocational - Class C -2	( )	20	( )	54	( )	( )	20
Authorization	( )	21	( )	55	( )	( )	21
Other (specify) ______	( )	22	( )	56	( )	( )	22
Supervision							
Special Subjects Supervision, Class A	( )	23	( )	57	( )	( )	23
Special Subjects Supervision, Class B	( )	24	( )	58	( )	( )	24
Standard Supervision, Trade and Technical	( )	25	( )	59	( )	( )	25
Authorization	( )	26	( )	60	( )	( )	26
Other (specify) ______	( )	27	( )	61	( )	( )	27
Administration							
General Administration	( )	28	( )	62	( )	( )	28
Standard Administration	( )	29	( )	63	( )	( )	29
Elementary Administration	( )	30	( )	64	( )	( )	30
Secondary Administration	( )	31	( )	65	( )	( )	31
Trade and Industrial Administration	( )	32	( )	66	( )	( )	32
Other (specify) ______	( )	33	( )	67	( )	( )	33
		34x		68-71x			34x

36. Indicate the number of years you have had **full-time** teaching assignments.

	Years	
Public School		
Elementary	( )	35 - 36
Secondary	( )	37 - 38
College-University	( )	39 - 40
Adult Education		
High School	( )	41 - 42
College	( )	43 - 44
University extension	( )	45 - 46
Private schools	( )	47 - 48
Commercial schools	( )	49 - 50
Industry (e.g., Litton, IBM, Hughes, etc.).	( )	51 - 52
Government - Armed Services	( )	53 - 54
Government - Other than Military	( )	55 - 56
Other (specify) ________________	( )	57 - 58
		59 - 72x

37. Indicate the number of years you have had **part-time** teaching assignments.

	Years	
Public School		
Elementary	( )	1 - 2
Secondary	( )	3 - 4
College-University	( )	5 - 6
Adult Education		
High School	( )	7 - 8
College	( )	9 - 10
University extension	( )	11 - 12
Private schools	( )	13 - 14
Commercial schools	( )	15 - 16
Industry (e.g., Litton, IBM, Hughes, etc.).........................	( )	17 - 18
Government - Armed Services	( )	19 - 20
Government - Other than Military	( )	21 - 22
Other (specify) ________________	( )	23 - 24

38. Which type of course do you teach most frequently?

Trade and technical	( )	25 - 1
Industrial arts	( )	- 2
Other vocational	( )	- 3
Other (specify) ________________	( )	- 4
		26x

39. If you are a trade and technical teacher select the **one** course title which best describes the course(s) you teach. (If you do not find an appropriate course title print the name of the course at the end of the questionnaire.).

- A -

Acetylene Welding (Welders)	( )	005
Aero Space Technology	( )	007
Air Conditioning and Refrigeration	( )	010
Aircraft and Engine Mechanics	( )	015
Aircraft Assembly	( )	017
Aircraft Blueprint Reading and Math	( )	020
Aircraft Drafting	( )	022
Aircraft Design & Construction	( )	025
Aircraft Electricity & Radio	( )	029
Aircraft Electricity	( )	030
Aircraft Electronics	( )	031
Aircraft Engine Mechanics (Aircraft Power Plant)	( )	035
Aircraft Engine Mechanics - Carburetion	( )	038
Aircraft Flight Engineering	( )	040
Aircraft (Form Block Making)	( )	045
Aircraft Inspection	( )	050
Aircraft Instruments	( )	055
Aircraft Manufacturing Processes	( )	056
Aircraft Machinist, Tool & Die & Jig Building	( )	057
Aircraft Materials & Processes	( )	058
Aircraft Mechanics	( )	060
Aircraft Mechanics (Jet Propulsion)	( )	061
Aircraft Navigation	( )	062
Aircraft Plaster Pattern Making for Apprentices	( )	063
Aircraft Plastics	( )	064
Aircraft Related Instruction	( )	065
Aircraft Sheet Metal	( )	070
Aircraft Stress Analysis	( )	073
Aircraft Technical Writing	( )	074
Aircraft Welding	( )	075
Arc and Acetylene Welding	( )	080
Arc Welding	( )	085
Architectural Drafting	( )	090
Architectural Landscaping	( )	092

BDQ -- (continued)

Asbestos Workers	( )	093
Auto Body and Fender	( )	095
Auto Carburetion	( )	100
Auto Electrics (Auto Motor Winding)	( )	105
Automation (Industrial)	( )	107
Auto Machine Shop	( )	110
Automation Transmissions	( )	112
Auto Mechanics	( )	115
Auto Mechanics (Service Station Operation)	( )	116
Auto Mechanics (Tire Rebuilding)	( )	117
Auto Motor Tune-up	( )	120
Auto Painting	( )	125
Auto Parts	( )	130
Auto Trimming	( )	133
Auto Wheel Alignment & Brakes	( )	135

- B -

Baking	( )	140
Baking (Cake Decorating)	( )	142
Blacksmithing	( )	143
Barbering	( )	144
Blueprint Reading	( )	145
Blueprint Reading & Mathematics	( )	150
Boilermaking	( )	155
Bricklaying and Masonry	( )	160
Building Code	( )	161
Building Construction	( )	162
Building Estimating	( )	163
Building Inspection	( )	165
Bus and Railway Operations	( )	175

- C -

Carpentry	( )	180
Carpentry (Blueprint Reading and Mathematics)	( )	182
Carpentry and Mill Cabinet	( )	185
Carpentry (Hardwood Floor Laying)	( )	195
Carpentry (Motion Picture Prop Making & Miniature Building	( )	200
Carpet and Linoleum Laying	( )	205
Caulking and Repairing	( )	210
Cement Finishing	( )	215
Civil Technology	( )	216
Cleaning and Dyeing	( )	220
Commercial Art	( )	225
Commercial Art (Background Design and Display)	( )	230
Commercial Art (Figure Illustrating)	( )	231
Commercial Art (Lettering)	( )	235
Commercial Art (Technical Illustrating)	( )	236

C cont'd

Commercial Vehicle Operation	( )	237
Construction & Repair Mechanics	( )	238
Computers, Electronic	( )	239
Cooking	( )	240
Cooking and Baking	( )	245
Coppersmithing	( )	247
Cosmetology	( )	250
Costume Design	( )	255

- D -

Dental Assisting	( )	260
Dental Hygienist	( )	263
Dental Mechanics	( )	265
Design and Construction for Petroleum Trades	( )	266
Diesel Electrics	( )	268
Diesel Mechanics	( )	270
Drafting	( )	275
Drafting (Isogonic)	( )	280
Drafting (Mechanical)	( )	281
Dressmaking	( )	285
Dressmaking and Design	( )	286
Dressmaking (Pattern Cutting)	( )	290
Dressmaking (Pattern Drafting)	( )	292
Dressmaking (Pattern Making)	( )	295

- E -

Electric Cable Splicing	( )	305
Electric Code	( )	310
Electric Construction	( )	315
Electric Instrument Repair	( )	320
Electricity	( )	325
Electricity for Telephone Service Men	( )	327
Electricity (Appliance Repair)	( )	330
Electricity (Fire Control)	( )	335
Electricity (Improvers)	( )	340
Electric Lineman	( )	345
Electric Motor Control	( )	347
Electric Motor Repair	( )	350
Electric Signman	( )	355
Electric Wiring	( )	360
Electronic Manufacturing	( )	361
Electronics	( )	362
Electro Plating	( )	363
Electro-Photo-Optics	( )	364
Elevator Construction	( )	365
Engineering Aid	( )	366
Engines - Small Gas	( )	367

BDQ -- (continued)

- F -

Fashion Modeling	( )	370
Fire Fighting	( )	380
Flower Making	( )	385
Fishery	( )	387
Foremanship	( )	390
Foremanship (Conference Leader Training)	( )	395
Foremanship (Fire Department Supervision)	( )	396
Forestry and Lumbering	( )	400
Foundry	( )	401
Furniture Making & Refinishing	( )	402

- G -

Garment Cutting	( )	405
Gas Appliance Control Repair Glazing	( )	407
Glazing	( )	410
Gunsmithing	( )	415

- H -

Heating and Ventilating	( )	420
Heavy Duty Equipment Repair	( )	422
Heliarc Welding (Inert Gas Welding)	( )	423
Home Health Aid	( )	424
Hospital Attendants	( )	425
Hotel Management	( )	435
Household Appliance Repair	( )	437
Household Service	( )	440
Housekeeping Administration	( )	441
Hydraulics Industrial	( )	443

- I -

Industrial Maintenance	( )	445
Industrial Maintenance (Stationary Steam)	( )	447
Industrial Materials Testing	( )	448
Inspection	( )	449
Inhalation Therapy	( )	450
Instrument Making & Repair	( )	455
Interior Decorating	( )	457

- J -

Janitor Engineering	( )	460
Jewelry (Engraving)	( )	465

- L -

Laboratory Technician	( )	468
Lathing	( )	470
Leathercraft	( )	472
Library Science (Technical)	( )	473
Locksmithing	( )	475
Lofting & Template Layout	( )	480

- M -

Machine Control Systems	( )	482
Machine Shop	( )	485
Machine Shop (Blueprint Reading and Math)	( )	490
Machine Shop (Jig & Fixture)	( )	495
Machine Shop (Machinery Maintenance)	( )	497
Marine Blueprint Reading and Layout	( )	499
Marine Drafting	( )	500
Marine Electricity	( )	505
Marine Mechanics	( )	508
Marine Navigation	( )	510
Marine Pipefitting	( )	512
Marine Sheet Metal	( )	515
Marine Sheet Metal Layout	( )	517
Marine Telephone	( )	520
Meatcutting	( )	525
Mechanics (Basic) Technology	( )	526
Medical Assistants	( )	527
Medical Laboratory	( )	528
Metallurgy	( )	530
Metal Polishing	( )	532
Metrology	( )	535
Mill Cabinet	( )	540
Millinery	( )	545
Millwright	( )	550
Missiles	( )	553
Molding and Coremaking	( )	560

- N -

Nuclear Energy	( )	561
Nursery School Assistants	( )	564

- O -

Office Machine Repair	( )	570
Operating Engineers	( )	575
Optical Technician	( )	580
Ordinary Seamen	( )	585
Orthopedic & Prosthetic Appliances	( )	586
Orthopedic Technician	( )	587

- P -

Package Engineering	( )	589
Painting & Decorating	( )	590
Paperhanging	( )	595
Pattern Making	( )	605
P.B.X. Operation	( )	610
Peace Officers Training, Patrol Problems	( )	615
Petroleum Processing	( )	620
Petroleum Processing (Liquid Petroleum Gas, Distribution and Handling)	( )	622
Petroleum Processing (Mud Control)	( )	625
Petroleum Processing (Oil Well Drilling)	( )	630
Petroleum Processing (Oil Well Production)	( )	635
Petroleum Processing (Pumping Plant Operation)	( )	637
Photography	( )	640
Cinematography	( )	641
Piano Tuning	( )	645
Plastering	( )	650
Plastics	( )	655
Plate & Structural Layout	( )	660
Plumbing and Pipefitting	( )	665
Plumbing and Pipefitting (Building Inspection)	( )	670
Plumbing and Pipefitting (Gas Controls)	( )	672
Plumbing and Pipefitting (Lead Wiping)	( )	675
Plumbing and Pipefitting (Welding)	( )	677
Power Sewing	( )	680
Practical Nursing	( )	685
Printing	( )	690
Printing (Bindery)	( )	695
Printing (Hand Composition)	( )	700
Printing (Linotype)	( )	705
Printing (Offset)	( )	707
Printing (Presswork)	( )	710
Production Processes for Technicians	( )	712
Production Control	( )	713
Psychiatric Technicians	( )	714

- Q -

Quality Control	( )	715

- R -

Radio	( )	716
Radio and Electric Parts	( )	720
Radio Frequency Modulation	( )	723
Radio Operation & Broadcasting	( )	725
Radio Operation and Code	( )	730
Radio-Television	( )	735
Railroad (Carmen)	( )	740

R cont'd

Railroad (Diesel)	( )	742
Railroad (Electricity and Air Conditioning)	( )	745
Railroad (Machine Shop)	( )	750
Railroad (Sheet Metal)	( )	755
Railroad Car Construction	( )	757
Railroad Mechanics	( )	760
Railroad Operation & Transportation	( )	765
Refrigeration	( )	770
Related Instruction for Apprentices	( )	773
Restaurant Management	( )	775
Roofing	( )	780

- S -

Safety Instruction - Nuclear Energy	( )	781
Sewage Treatment Operation	( )	782
Sheet Metal	( )	785
Sheet Metal Layout	( )	790
Sheet Metal Welding	( )	795
Shipbuilding	( )	800
Ship Carpentry	( )	805
Shipfitting	( )	810
Shoemaking and Repair	( )	815
Sign & Pictorial Painting	( )	820
Soda Dispensing & Fry Cooking	( )	823
Sprinkler Fitting	( )	825
Stagecraft	( )	826
Steamfitting	( )	830
Strength of Material (Steel)	( )	833
Structural & Ornamental, Metal Work	( )	835
Surgical Technology	( )	838
Surveying	( )	840
Surveying (Highway Technician)	( )	841

- T -

Tailoring (Ladies')	( )	845
Tailoring (Men's)	( )	850
Tailoring Pattern Drafting	( )	851
Technical Report Reading	( )	852
Technical Report Writing	( )	853
Techniques of Rehabilitation Nursing	( )	854
Telegraphy and Telephony	( )	855
Teletype	( )	856
Television	( )	857
Tilesetting	( )	860
Time and Motion Study	( )	865
Tool Design	( )	868
Tool and Die Making	( )	870

T cont'd

Tool Planning	( )	872
Trade Mathematics & Science	( )	875
Trade Science	( )	885
Traffic Management	( )	887
Turf Management	( )	889

- U -

Upholstery	( )	890

- W -

Waitress Training	( )	900
Watchmaking	( )	905
Water Distribution	( )	908
Welding Technology	( )	910

- X -

X-Ray Technology	( )	912

If you found no appropriate category, **PRINT** your course titles here.

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____

Thank you for your cooperation.

SELF-PERCEPTION QUESTIONNAIRE

1. During the past year, have you discussed any of the topics identified below with other educators? DRAW A CIRCLE around one of the three numbers (1 2 3) before each subject to indicate the answer you have selected.

1 - No discussion
2 - Occasionally
3 - Frequently

No discussion	Occasionally	Frequently		
1	2	3	1	Population - How the student population, both vocational and non-vocational affects the nature and quality of vocational education offered.
1	2	3	2	Job Markets - How employment opportunities affect vocational school offerings, enrollments, budgets, facilities, equipment, teacher supply, etc.
1	2	3	3	Employer policies - How the policies and attitudes of employers affect decisions with regard to the hireability of graduates of vocational institutions and the willingness of employers to cooperate with vocational educators.
1	2	3	4	Organized labor policies - How the policies and attitudes of organized labor affect decisions with respect to apprenticeship programs and cooperation with vocational educators.
1	2	3	5	Science - How changes in the recent scientific revolution (since 1945), which has emphasized atomic energy, automation, computers and chemical materials, produce new and changing fields of knowledge in vocational education.
1	2	3	6	Technology - How changes in methods, materials and practices affect vocational school offerings, enrollments, budgets, facilities, equipment, teacher qualifications, etc.
1	2	3	7	Cultural values - How the acquired values, prejudices, ideals, attitudes, stereotypes and "image" perceptions of the population affect vocational education.

SPQ -- (continued)

1	2	3	8 Economics - How economic conditions (prosperity or poverty, comparative wage levels, employment/unemployment ratios, growth rate, productivity, etc.) affect the demand for vocational education, teacher supply, financing, new facility, construction, equipment acquisition, etc.
1	2	3	9 International interaction - How the thrust of totalitarianism abroad affect the pressures upon vocational education to provide the base of economic well-being at home through vocational education.
1	2	3	10 Legislation - How legislation at all government levels affect all aspects of both public and private vocational education.
1	2	3	11 Geography - How climate, topography and natural resources, in interaction with population and economic conditions, affect the nature and distribution of vocational education in California.

12x

2. How satisfied are you with your performance of the activities identified below? DRAW A CIRCLE around one of the five numbers (1 2 3 4 5) before each item to indicate the answer you have selected.

1 - Very unsatisfied
2 - Unsatisfied
3 - Neutral
4 - Satisfied
5 - Very satisfied
NI - Circle if you are not involved in the activity.

Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied	Not involved	
						Teaching subject matter
1	2	3	4	5	NI	13 Planning activities and methods
1	2	3	4	5	NI	14 Setting up objectives
1	2	3	4	5	NI	15 Selecting and organizing subject matter
1	2	3	4	5	NI	16 Developing pupil interests in subject matter
1	2	3	4	5	NI	17 Instructing -- Presenting subject matter
1	2	3	4	5	NI	18 Selecting, presenting and adapting assignments to pupils
1	2	3	4	5	NI	19 Providing sufficient opportunity for pupils' activities
1	2	3	4	5	NI	20 Providing facilities for individual study (e.g., time, assistance, materials)
1	2	3	4	5	NI	21 Investigating and evaluating pupil needs, abilities, and achievements
1	2	3	4	5	NI	22 Exhibiting useful teacher traits (e.g., interest in subject and pupils, qualities of leadership)

23x

SPQ -- (continued)

Teaching pupils to study

1	2	3	4	5	NI	24 Teaching pupils to develop useful interests, worthy motives, and sincere appreciations
1	2	3	4	5	NI	25 Teaching pupils to develop traits and habits
1	2	3	4	5	NI	26 Teaching pupils to participate in class activities
1	2	3	4	5	NI	27 Teaching pupils to establish friendly relations with other pupils
1	2	3	4	5	NI	28 Teaching pupils to develop individual tendencies and abilities
1	2	3	4	5	NI	29 Teaching pupils to solve problems
1	2	3	4	5	NI	30 Teaching pupils how to improve skills and abilities
1	2	3	4	5	NI	31 Teaching pupils to make practical use of materials studies
1	2	3	4	5	NI	32 Teaching pupils to make economical use of time
1	2	3	4	5	NI	33 Teaching pupils to meet formal requirements

34x

Activities involving contacts with pupils

1	2	3	4	5	NI	35 Working with school regulations, social conventions, and personal obligations ("working with" includes motivating, explaining, instructing, inspecting, evaluating and enforcing)
1	2	3	4	5	NI	36 Giving examinations and tests
1	2	3	4	5	NI	37 Maintaining classroom control
1	2	3	4	5	NI	38 Regulating classroom attendance (controlling tardiness and absence; excusing, dismissing, and detaining pupils; sending pupils on errands)
1	2	3	4	5	NI	39 Opening school sessions (meeting, admitting, greeting, and getting pupils started at the first of the year)
1	2	3	4	5	NI	40 Collecting materials from pupils (for class projects, etc.)
1	2	3	4	5	NI	41 Helping new students become adjusted
1	2	3	4	5	NI	42 Making announcements
1	2	3	4	5	NI	43 Giving educational guidance
1	2	3	4	5	NI	44 Giving occupational guidance
1	2	3	4	5	NI	45 Using pupil assistants
1	2	3	4	5	NI	46 Establishing effective personal relationships with pupils
1	2	3	4	5	NI	47 Securing cooperation from students
1	2	3	4	5	NI	48 Investigating difficulties in pupil relationships
1	2	3	4	5	NI	49 Applying remedies to pupil problems
1	2	3	4	5	NI	50 Adapting teaching procedures to individual problems
1	2	3	4	5	NI	51 Adapting teaching procedure to physical conditions of classroom and equipment
1	2	3	4	5	NI	52 Conducting laboratory or shop exercises
1	2	3	4	5	NI	53 Conducting classroom studies
1	2	3	4	5	NI	54 Grouping pupils
1	2	3	4	5	NI	55 Scheduling activities

56x

SPQ -- (continued)

3. Do any of the activities listed below become a problem for you? DRAW A CIRCLE around one of the five numbers (1 2 3 4 5) before each item to indicate the answer you have selected.

1 - Never
2 - Seldom
3 - Occasionally
4 - Often
5 - Always

Never	Seldom	Occasionally	Often	Always	
					Recording and reporting information concerning pupils
1	2	3	4	5	57 Admissions
1	2	3	4	5	58 Census
1	2	3	4	5	59 Health
1	2	3	4	5	60 Attendance
1	2	3	4	5	61 Tardiness
1	2	3	4	5	62 Marks
1	2	3	4	5	63 Promotion
1	2	3	4	5	64 Classwork
1	2	3	4	5	65 Withdrawals
1	2	3	4	5	66 Schedules
1	2	3	4	5	67 Personal
					68x
					Activities involving extra-classroom supervision of pupils
1	2	3	4	5	1 Informal contacts with pupils
1	2	3	4	5	2 Recreation
1	2	3	4	5	3 Athletics
1	2	3	4	5	4 Social activities
1	2	3	4	5	5 Dramatic and musical
1	2	3	4	5	6 Pupils' publications
1	2	3	4	5	7 Forensic activities
1	2	3	4	5	8 Excursions
1	2	3	4	5	9 Assemblies
1	2	3	4	5	10 Drives and campaigns
1	2	3	4	5	11 Organizations
1	2	3	4	5	12 Special programs
					13x
					Activities in connection with school plant
1	2	3	4	5	14 Maintaining proper temperature
1	2	3	4	5	15 Securing proper lighting
1	2	3	4	5	16 Keeping buildings clean and orderly
1	2	3	4	5	17 Securing proper ventilation
1	2	3	4	5	18 Taking proper precautions against fire
1	2	3	4	5	19 Maintaining safety standards
1	2	3	4	5	20 Securing necessary space
1	2	3	4	5	21 Making facilities attractive
					22x

SPQ -- (continued)

Activities in connection with school supplies and equipment

1	2	3	4	5	23 Ordering supplies
1	2	3	4	5	24 Following up orders for supplies
1	2	3	4	5	25 Selecting supplies
1	2	3	4	5	26 Borrowing supplies
1	2	3	4	5	27 Arranging supplies for use
1	2	3	4	5	28 Distributing supplies to pupils
1	2	3	4	5	29 Making supplies and equipment
1	2	3	4	5	30 Making collections of supplies and equipment
1	2	3	4	5	31 Maintaining supplies and equipment in condition for use
1	2	3	4	5	32 Cleaning supplies and equipment
1	2	3	4	5	33 Making records and reports concerning school supplies and equipment
1	2	3	4	5	34 Managing funds for supplies and equipment

35x

4. Which of the following would be most helpful to your professional and personal advancement? DRAW A CIRCLE around one of the five numbers (1 2 3 4 5) on a scale from least helpful (1) to most helpful (5).

1 - Least helpful
2
3
4
5 - Most helpful

Seeking to improve skill in teaching

Least helpful				Most helpful	
1	2	3	4	5	36 Observing and reporting different types of teaching
1	2	3	4	5	37 Taking courses in professional subjects
1	2	3	4	5	38 Participating in a program of in-servive training
1	2	3	4	5	39 Participating in a personal reading program
1	2	3	4	5	40 Studying and investigating professional problems
1	2	3	4	5	41 Working on a job to gain practical work experience
1	2	3	4	5	42 Participating in advisory committees
1	2	3	4	5	43 Seeking independent advice and information
1	2	3	4	5	44 Studying personal points of strength and weakness
1	2	3	4	5	45 Studying the community
1	2	3	4	5	46-54 Other (specify)____________________

55x

Seeking to improve professional status

1	2	3	4	5	56 Meeting higher official standards (e.g., working for certificates, degrees, etc.)
1	2	3	4	5	57 Securing a more attractive position
1	2	3	4	5	58 Co-operating in research
1	2	3	4	5	59 Conducting independent research
1	2	3	4	5	60 Preparing material for publication
1	2	3	4	5	61 Appearing before the community
1	2	3	4	5	62 Making professional contacts
1	2	3	4	5	63 Supporting professional organizations
1	2	3	4	5	64-70 Other (specify)____________________

71x

5. What types of experiences would you include in an in-service program to increase your effectiveness as a teacher?

1.____________________________________

2.____________________________________

3.____________________________________

4.____________________________________

5.____________________________________

6. Identify three persons who influence your teaching most often. Do not identify by name (e.g., director of vocational education, department chairman, teacher, industrial workman, union official, friend, etc.)

Most influential____________________________

Second most influential________________________

Third most influential________________________

PRESCRIPTION-DESCRIPTION QUESTIONNAIRE -- FORM A

I - CHANGING ENVIRONMENT

The items below have been identified as important to the status of trade and technical education in its changing environment. Please indicate how frequently these suggestions SHOULD be practiced.

Always	Often	Occasionally	Seldom	Never	Item
5	4	3	2	1	1 - Devote time to re-evaluate goals of vocational education.
5	4	3	2	1	2 - Place gainful employment above all other vocational goals.
5	4	3	2	1	3 - Tailor vocational courses to the specific demands of industry.
5	4	3	2	1	4 - Encourage industry to take over training for specific occupations.
5	4	3	2	1	5 - Standardize vocational curriculum in spite of the many demands for specialization in industry.
5	4	3	2	1	6 - Offer work-study programs in vocational curricula.
5	4	3	2	1	7 - Utilize advisory committees from trade and technical fields.
5	4	3	2	1	8 - Devote time to up-dating course content.
5	4	3	2	1	9 - Replace equipment.
5	4	3	2	1	10 - Receive time off to develop new courses.
5	4	3	2	1	11 - Articulate program for coordination of courses between junior high, high school and college.
5	4	3	2	1	12 - Emphasize the distinctions between entry level (occupational), trade (non-professional) and technical (semi-professional) courses.
5	4	3	2	1	13 - Enjoy a philosophy of administration which supports vocational education.
5	4	3	2	1	14 - Enjoy a status in which vocational teachers are equal to academic teachers.
5	4	3	2	1	15 - Maintain vocational teacher salaries in line with trade and technical salaries in industry.
5	4	3	2	1	16 - Devote time to a program of vocational teacher recruitment.
5	4	3	2	1	17 - Encourage the interest of technical societies in schools.
5	4	3	2	1	18 - Offer programs of vocational orientation for academic and vocational students.
5	4	3	2	1	19 - Offer students information about the disadvantages of employment without sufficient training.
5	4	3	2	1	20 - Offer parents information about the advantages of vocational education.

PDQ (FORM A) -- (continued)

					Item	
5	4	3	2	1	21 -	Disseminate information to the public about needs of industry for our graduates.
5	4	3	2	1	22 -	Emphasize values and attitudes toward work in vocational classes.
5	4	3	2	1	23 -	Insist that all students admitted to vocational courses have the ability to do the work.
5	4	3	2	1	24 -	Insist that vocational classes have no more students than space provides.
5	4	3	2	1	25 -	Maintain standards of vocational competence as criteria for graduation.
5	4	3	2	1	26 -	Offer industrial scholarships for vocational students.
5	4	3	2	1	27 -	Do research in vocational education.
					28x	
					29x	

II - COLLEAGUES

The items below have been identified as important to the relationship of trade and technical teachers with colleagues (vocational and academic). Please indicate how frequently these suggestions SHOULD be practiced.

Always	Often	Occasionally	Seldom	Never	Item	
5	4	3	2	1	30 -	Join with academic teachers to develop courses together.
5	4	3	2	1	31 -	Join with vocational teachers to develop courses together.
5	4	3	2	1	32 -	Join with academic teachers for team teaching.
5	4	3	2	1	33 -	Join with vocational teachers for team teaching.
5	4	3	2	1	34 -	Utilize academic teachers as resource persons in class instruction.
5	4	3	2	1	35 -	Utilize vocational teachers as resource persons in class instruction.
5	4	3	2	1	36 -	Encourage teachers of academic subjects to emphasize vocational applications.
5	4	3	2	1	37 -	Offer academic subjects taught by vocational teachers to emphasize vocational applications.
5	4	3	2	1	38 -	Offer programs of vocational orientation for counselors.
5	4	3	2	1	39 -	Utilize trade and technical teachers as vocational counselors.

Item

5 4 3 2 1 40 - Bring administrators into the activities of vocational education.

5 4 3 2 1 41 - Initiate activities which will build better communication between vocational and academic teachers.

5 4 3 2 1 42 - Encourage the combination of vocational and academic teachers in administrative committees.

5 4 3 2 1 43 - Provide social activities which combine both vocational and academic teachers.

5 4 3 2 1 44 - Utilize vocational competence as a basis for professional advancement.

5 4 3 2 1 45 - Take courses to meet academic requirements of professional advancement.

5 4 3 2 1 46 - Equate laboratory teaching with lecture teaching when assessing class load.

5 4 3 2 1 47 - Emphasize the importance of vocational education for academic students.

5 4 3 2 1 48 - Emphasize the importance of general education for vocational students.

III - TEACHER TRAINING

The items below have been identified as important to a program of teacher training for trade and technical teachers. Please rate each suggestion on an importance scale by drawing a circle around the alternative which most nearly expresses your opinion of what SHOULD be included in a good program.

Scale of Importance

Great Much Average Small No Item

5 4 3 2 1 1 - Include observation-demonstration sessions with master (expert) teachers.

5 4 3 2 1 2 - Demand practice-demonstrations of all trainees.

5 4 3 2 1 3 - Provide T. V. recordings of classroom instruction for evaluation for new teachers.

5 4 3 2 1 4 - Offer supervised (practice) teaching.

5 4 3 2 1 5 - Provide subject area groupings of trainees.

PDQ (FORM A) -- (continued)

Great	Much	Average	Small	No	Item
5	4	3	2	1	6 - Emphasize teaching methodology (how to teach).
5	4	3	2	1	7 - Give emphasis to the learning process (how students learn).
5	4	3	2	1	8 - Include the particular techniques of teaching specific subject areas.
5	4	3	2	1	9 - Stress curriculum development.
5	4	3	2	1	10 - Emphasize lesson planning.
5	4	3	2	1	11 - Emphasize testing methodologies.
5	4	3	2	1	12 - Stress techniques of handling discipline problems.
5	4	3	2	1	13 - Include instruction in audio-visual methods.
5	4	3	2	1	14 - Include training in adolescent psychology.
5	4	3	2	1	15 - Include instruction in school law for teachers.
5	4	3	2	1	16 - Include instruction in school finance.
5	4	3	2	1	17 - Train teachers to do vocational counseling.
5	4	3	2	1	18 - Interpret recent research for teachers in education.
5	4	3	2	1	19 - Interpret pertinent research for teachers in subject areas.
5	4	3	2	1	20 - Begin prospective teachers on a part-time basis.
5	4	3	2	1	21 - Start beginning teachers with team teaching.
5	4	3	2	1	22 - Maintain a program of up-dating written credential examinations.
5	4	3	2	1	23 - Provide federal scholarships for vocational teacher training.
5	4	3	2	1	24 - Provide funded internships for vocational teachers.
5	4	3	2	1	25 - Encourage industry to provide scholarships for vocational teacher training.
5	4	3	2	1	26 - Schedule training programs so that teachers can work while training.
5	4	3	2	1	27 - Disperse teacher training throughout the state.
5	4	3	2	1	28 - Orient trainees to sources of local help.
					29x

PDQ (FORM A) -- (continued)

IV - IN-SERVICE TRAINING

The items below have been identified as important to a program of in-service training for trade and technical teachers. Please rate each suggestion on an importance scale by drawing a circle around the alternative which most nearly expresses your opinion of what SHOULD be included in a good program.

Scale of Importance

Great	Much	Average	Small	No	Item
5	4	3	2	1	30 - Provide observation-demonstration sessions with master (expert) teachers.
5	4	3	2	1	31 - Demand practice-demonstration sessions for all trainees.
5	4	3	2	1	32 - Offer field trips to schools to observe master teachers.
5	4	3	2	1	33 - Provide a program of industrial visitation.
5	4	3	2	1	34 - Provide in-service training on new equipment.
5	4	3	2	1	35 - Provide orientation to problems of administration.
5	4	3	2	1	36 - Encourage a broad range of general courses for personal growth.
5	4	3	2	1	37 - Deal with the problems of articulation between junior high, high school and college.
5	4	3	2	1	38 - Provide in-service training by subject areas.
5	4	3	2	1	39 - Provide in-service training for job clusters (closely related vocations).
5	4	3	2	1	40 - Provide inter-trade seminars (differing vocational areas).
5	4	3	2	1	41 - Provide training for new subject areas.
5	4	3	2	1	42 - Provide for exchange of teaching methods within subject areas.
5	4	3	2	1	43 - Maintain exposure to the latest trade and technical developments in subject area fields.
5	4	3	2	1	44 - Interpret recent research for teachers in education.
5	4	3	2	1	45 - Interpret pertinent research for teachers in subject areas.
5	4	3	2	1	46 - Insist that up-dating trade and technical experience be rewarded on salary schedules.
5	4	3	2	1	47 - Insist on recency of trade and technical experience for salary advancement.
5	4	3	2	1	48 - Encourage academic credit for in-service training in vocational education.

PDQ (FORM A) -- (continued)

Great	Much	Average	Small	No	Item
5	4	3	2	1	49 - Resist academic bias in awarding salary credit for vocational training of trade and technical teachers.
5	4	3	2	1	50 - Encourage professional associations to work for the awarding of credit for the in-service training of vocational teachers.
5	4	3	2	1	51 - Encourage the institutions of higher education to provide in-service training.
5	4	3	2	1	52 - Encourage industry to provide in-service training for vocational teachers.
5	4	3	2	1	53 - Encourage in-service training at the local level.
5	4	3	2	1	54 - Maintain a center for information concerning in-service training opportunities.
5	4	3	2	1	55 - Maintain a roster of teachers for communication within subject area fields.
5	4	3	2	1	56 - Include a program of in-service training for counselors.
5	4	3	2	1	57 - Provide time off from teaching for in-service training.
5	4	3	2	1	58 - Provide time off for curriculum improvement as a part of in-service training.
5	4	3	2	1	59 - Train teachers to do vocational counseling.

PRESCRIPTION-DESCRIPTION QUESTIONNAIRE -- FORM B

I - CHANGING ENVIRONMENT

The items below have been identified as important to the status of trade and technical education in its changing environment. Even though you may not agree that each suggestion is good, indicate how frequently these suggestions ARE practiced.

Always	Often	Occasionally	Seldom	Never	Item
5	4	3	2	1	1 - Devote time to re-evaluate goals of vocational education.
5	4	3	2	1	2 - Place gainful employment above all other vocational goals.
5	4	3	2	1	3 - Tailor vocational courses to the specific demands of industry.
5	4	3	2	1	4 - Encourage industry to take over training for specific occupations.
5	4	3	2	1	5 - Standardize vocational curriculum in spite of the many demands for specialization in industry.
5	4	3	2	1	6 - Offer work-study programs in vocational curricula.
5	4	3	2	1	7 - Utilize advisory committees from trade and technical fields.
5	4	3	2	1	8 - Devote time to up-dating course content.
5	4	3	2	1	9 - Replace equipment.
5	4	3	2	1	10 - Receive time off to develop new courses.
5	4	3	2	1	11 - Articulate program for coordination of courses between junior high, high school and college.
5	4	3	2	1	12 - Emphasize the distinctions between entry level (occupational), trade (non-professional) and technical (semi-professional) courses.
5	4	3	2	1	13 - Enjoy a philosophy of administration which supports vocational education.
5	4	3	2	1	14 - Enjoy a status in which vocational teachers are equal to academic teachers.
5	4	3	2	1	15 - Maintain vocational teacher salaries in line with trade and technical salaries in industry.
5	4	3	2	1	16 - Devote time to a program of vocational teacher recruitment.
5	4	3	2	1	17 - Encourage the interest of technical societies in schools.
5	4	3	2	1	18 - Offer programs of vocational orientation for academic and vocational students.
5	4	3	2	1	19 - Offer students information about the disadvantages of employment without sufficient training.
5	4	3	2	1	20 - Offer parents information about the advantages of vocational education.

PDQ (FORM B) -- (continued)

					Item	
5	4	3	2	1	21 -	Disseminate information to the public about needs of industry for our graduates.
5	4	3	2	1	22 -	Emphasize values and attitudes toward work in vocational classes.
5	4	3	2	1	23 -	Insist that all students admitted to vocational courses have the ability to do the work.
5	4	3	2	1	24 -	Insist that vocational classes have no more students than space provides.
5	4	3	2	1	25 -	Maintain standards of vocational competence as criteria for graduation.
5	4	3	2	1	26 -	Offer industrial scholarships for vocational students.
5	4	3	2	1	27 -	Do research in vocational education.
					28x	
					29x	

II - COLLEAGUES

The items below have been identified as important to the relationship of trade and technical teachers with colleagues (vocational and academic). Even though you may not agree that each suggestion is good, indicate how frequently these suggestions ARE practiced.

Always	Often	Occasionally	Seldom	Never	Item	
5	4	3	2	1	30 -	Join with academic teachers to develop courses together.
5	4	3	2	1	31 -	Join with vocational teachers to develop courses together.
5	4	3	2	1	32 -	Join with academic teachers for team teaching.
5	4	3	2	1	33 -	Join with vocational teachers for team teaching.
5	4	3	2	1	34 -	Utilize academic teachers as resource persons in class instruction.
5	4	3	2	1	35 -	Utilize vocational teachers as resource persons in class instruction.
5	4	3	2	1	36 -	Encourage teachers of academic subjects to emphasize vocational applications.
5	4	3	2	1	37 -	Offer academic subjects taught by vocational teachers to emphasize vocational applications.
5	4	3	2	1	38 -	Offer programs of vocational orientation for counselors.
5	4	3	2	1	39 -	Utilize trade and technical teachers as vocational counselors.

PDQ (FORM B) -- (continued)

Item

5 4 3 2 1 40 - Bring administrators into the activities of vocational education.

5 4 3 2 1 41 - Initiate activities which will build better communication between vocational and academic teachers.

5 4 3 2 1 42 - Encourage the combination of vocational and academic teachers in administrative committees.

5 4 3 2 1 43 - Provide social activities which combine both vocational and academic teachers.

5 4 3 2 1 44 - Utilize vocational competence as a basis for professional advancement.

5 4 3 2 1 45 - Take courses to meet academic requirements of professional advancement.

5 4 3 2 1 46 - Equate laboratory teaching with lecture teaching when assessing class load.

5 4 3 2 1 47 - Emphasize the importance of vocational education for academic students.

5 4 3 2 1 48 - Emphasize the importance of general education for vocational students.

III - TEACHER TRAINING

The items below have been identified as important to a program of teacher training for trade and technical teachers. Please rate each suggestion on an importance scale by drawing a circle around the alternative which most nearly expresses your opinion of what SHOULD be included in a good program.

Scale of Importance

Great Much Average Small No Item

5 4 3 2 1 1 - Include observation-demonstration sessions with master (expert) teachers.

5 4 3 2 1 2 - Demand practice-demonstrations of all trainees.

5 4 3 2 1 3 - Provide T. V. recordings of classroom instruction for evaluation for new teachers.

5 4 3 2 1 4 - Offer supervised (practice) teaching.

5 4 3 2 1 5 - Provide subject area groupings of trainees.

PDQ (FORM B) -- (continued)

Great	Much	Average	Small	No	Item
5	4	3	2	1	6 - Emphasize teaching methodology (how to teach).
5	4	3	2	1	7 - Give emphasis to the learning process (how students learn).
5	4	3	2	1	8 - Include the particular techniques of teaching specific subject areas.
5	4	3	2	1	9 - Stress curriculum development.
5	4	3	2	1	10 - Emphasize lesson planning.
5	4	3	2	1	11 - Emphasize testing methodologies.
5	4	3	2	1	12 - Stress techniques of handling discipline problems.
5	4	3	2	1	13 - Include instruction in audio-visual methods.
5	4	3	2	1	14 - Include training in adolescent psychology.
5	4	3	2	1	15 - Include instruction in school law for teachers.
5	4	3	2	1	16 - Include instruction in school finance.
5	4	3	2	1	17 - Train teachers to do vocational counseling.
5	4	3	2	1	18 - Interpret recent research for teachers in education.
5	4	3	2	1	19 - Interpret pertinent research for teachers in subject areas.
5	4	3	2	1	20 - Begin prospective teachers on a part-time basis.
5	4	3	2	1	21 - Start beginning teachers with team teaching.
5	4	3	2	1	22 - Maintain a program of up-dating written credential examinations.
5	4	3	2	1	23 - Provide federal scholarships for vocational teacher training.
5	4	3	2	1	24 - Provide funded internships for vocational teachers.
5	4	3	2	1	25 - Encourage industry to provide scholarships for vocational teacher training.
5	4	3	2	1	26 - Schedule training programs so that teachers can work while training.
5	4	3	2	1	27 - Disperse teacher training throughout the state.
5	4	3	2	1	28 - Orient trainees to sources of local help. 29x

PDQ (FORM B) -- (continued)

IV - IN-SERVICE TRAINING

The items below have been identified as important to a program of in-service training for trade and technical teachers. Please rate each suggestion on an importance scale by drawing a circle around the alternative which most nearly expresses your opinion of what SHOULD be included in a good program.

Scale of Importance

Great	Much	Average	Small	No	Item
5	4	3	2	1	30 - Provide observation-demonstration sessions with master (expert) teachers.
5	4	3	2	1	31 - Demand practice-demonstration sessions for all trainees.
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5	4	3	2	1	43 - Maintain exposure to the latest trade and technical developments in subject area fields.
5	4	3	2	1	44 - Interpret recent research for teachers in education.
5	4	3	2	1	45 - Interpret pertinent research for teachers in subject areas.
5	4	3	2	1	46 - Insist that up-dating trade and technical experience be rewarded on salary schedules.
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5	4	3	2	1	48 - Encourage academic credit for in-service training in vocational education.

PDQ (FORM B) -- (continued)

Great	Much	Average	Small	No	Item
5	4	3	2	1	49 - Resist academic bias in awarding salary credit for vocational training of trade and technical teachers.
5	4	3	2	1	50 - Encourage professional associations to work for the awarding of credit for the in-service training of vocational teachers.
5	4	3	2	1	51 - Encourage the institutions of higher education to provide in-service training.
5	4	3	2	1	52 - Encourage industry to provide in-service training for vocational teachers.
5	4	3	2	1	53 - Encourage in-service training at the local level.
5	4	3	2	1	54 - Maintain a center for information concerning in-service training opportunities.
5	4	3	2	1	55 - Maintain a roster of teachers for communication within subject area fields.
5	4	3	2	1	56 - Include a program of in-service training for counselors.
5	4	3	2	1	57 - Provide time off from teaching for in-service training.
5	4	3	2	1	58 - Provide time off for curriculum imporvement as a part of in-service training.
5	4	3	2	1	59 - Train teachers to do vocational counseling.